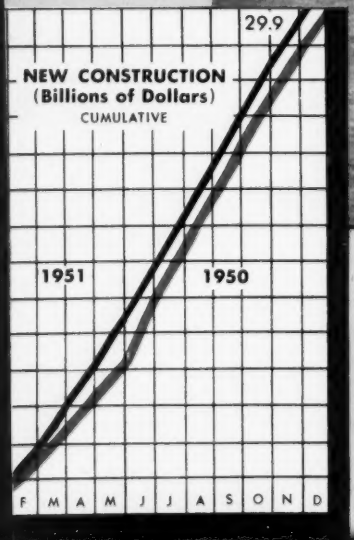
The CONSTRUCTOR

OFFICIAL PUBLICATION OF THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA

Volume XXXIV JANUARY 1952 Number 1

- BUILDINGS
- HIGHWAYS
- AIRPORTS
- RAILROADS
- PUBLIC WORKS



1951 Construction Volume and Forecast—21

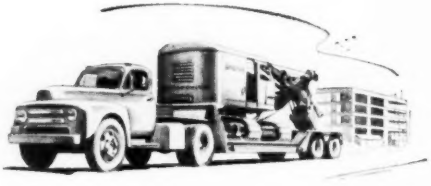
A.G.C. Recommendations on Renegotiation—31

Affiliated Unit Wins Fame in Korea—26

the RIGHT gear ratio for load, road, and type of service

means more and faster trips, lower cost, longer truck life

EATON 2-Speed Axles *double* the conventional number of gear ratios, giving drivers a *right* ratio for every operating condition—on the highway, or off, starting out under full load, climbing grades, highballing, quick shifting in traffic. Engines run in the most efficient and economical speed range, reducing stress and wear on engines and power transmitting parts; adding thousands of miles to vehicle life. And Eaton Axles last longer because exclusive planetary gearing better distributes gear tooth loads. The exclusive Eaton forced-feed oiling system provides positive lubrication at all vehicle speeds. Ask your dealer to show you how Eaton 2-Speeds will help *your* trucks haul more, faster, longer, at lower cost!



EATON 2-Speed Truck AXLES

Axle Division
EATON MANUFACTURING COMPANY
CLEVELAND, OHIO

PRODUCTS: Sodium Cooled, Poppet, and Free Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Rotor Pumps • Motor Truck Axles • Permanent Mold Gray Iron Castings • Heater-Defroster Units • Snap Rings Springtites • Spring Washers • Cold Drawn Steel • Stampings • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers

Sure--We're Taking Orders For Reinforcing Steels!

Builders ready to start construction jobs can look to Ryerson for the steels needed for reinforced concrete construction—bars and accessories, spirals, wire mesh, and joist forms.

Some of our plants may, from time to time, be temporarily sold out of reinforcing bars for immediate shipment, but in the main you can count on us for job-scheduled deliveries of the steels you require.

You can count, too, on getting the usual complete Ryerson service—setting plans if needed, accurate cutting, bending and fabricating, with every piece metal-tagged for quick identification and placement.

Of course, reinforcing bars are a Class A Product; so it is essential that we receive an allotment from you, well in advance of delivery, in order to take care of your requirements promptly and completely.

There's a Ryerson plant near you and a Ryerson reinforcing specialist ready to work with you. So call on us for a lump sum or average pound price on your next job.

Hi-Bond Re-Bars for Greater Grip

First of the new high-strength bars, Hi-Bond reinforcing gives stronger construction and increased resistance to the formation of tensile cracks. Hi-Bond's greater bonding grip is test-proven. Every bar meets or exceeds ASTM spec. A305. It will pay you to make Hi-Bond part of your plans for tomorrow.

RYERSON STEEL

JOSEPH T. RYERSON & SON, INC. PLANTS AT: NEW YORK • BOSTON • PHILADELPHIA • CINCINNATI • CLEVELAND
DETROIT • PITTSBURGH • BUFFALO • CHICAGO • MILWAUKEE • ST. LOUIS • LOS ANGELES • SAN FRANCISCO

Gotham Cheers!

10 DAYS SAVED IN REPAVING KEY SECTIONS OF HENRY HUDSON PARKWAY

● Repaving this key section of Henry Hudson Parkway's northbound lane illustrates how good job planning minimizes traffic interference. Using 'INCOR' AIR-ENTRAINING 24-HOUR CEMENT for the dual advantage of increased workability and durability, plus dependable 24-hour service strength, heavy traffic was maintained through the job at all times. And the handsome new 'Incor' roadway was in full use ten days ahead of schedule! Good example of modern efficiency in highway building and ready-mix service, as well as of this clear-cut fact:

When you want to beat a record, without sacrificing quality, you can't beat 'Incor'*, America's FIRST High-early-strength Air-entraining Portland Cement.

*Reg. U. S. Pat. Off.

ANOTHER EXAMPLE OF DUAL ADVANTAGE OF 'INCOR' AIR-ENTRAINING 24-HOUR CEMENT

Traffic used 3 lanes, while 2" asphalt topping and 3" of old concrete base were dug out and two westerly lanes concreted.

All hands remarked at the cohesive, highly-plastic quality of the 3½" slump 'Incor' air-entrained concrete.

Finishing followed closely behind the mixer —highly-plastic 'Incor' mix expedited placing and finishing.

The first two lanes were quickly opened to traffic, as work went ahead at top speed on the next two lanes.

Completed 10 days ahead of time—result of paving know-how, on-time ready-mix service, and typical 'Incor' performance.

HENRY HUDSON PARKWAY REPAVING
— between 95th and 98th Streets

Supervision:
DEPARTMENT OF PARKS, CITY OF NEW YORK

Contractor: **QUEENS STRUCTURES, INC.,**
Woodside, N. Y.

Ready-Mix 'Incor' Air-Entrained Concrete:
COLONIAL SAND & STONE CO., INC.,
New York

LONE STAR CEMENTS COVER THE ENTIRE CONSTRUCTION FIELD

LONE STAR CEMENT CORPORATION

Offices: ABILENE, TEX. • ALBANY, N. Y. • BETHLEHEM, PA. • BIRMINGHAM
BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS
KANSAS CITY, MO. • NEW ORLEANS • NEW YORK • NORFOLK
PHILADELPHIA • RICHMOND • ST. LOUIS • WASHINGTON, D. C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 17 MODERN MILLS. 125,000,000 SACKS ANNUAL CAPACITY

The CONSTRUCTOR

BUILDINGS • HIGHWAYS • AIRPORTS • RAILROADS • PUBLIC WORKS

CONTENTS

GENERAL

1951 Construction $39 Billion; $37 Billion Indicated for 1952 21
Industrial Expansion Booms Along 22
Municipal Officials Hear 1952 Prospects 22
Urgency Now Is the Word for Metal Scrap 24

NATIONAL DEFENSE

453rd Engineers Win Fame on Korean Bridge Assignments 26
Seabees Celebrate Birthday 28

CONTRACTS • SPECIFICATIONS

Renegotiation Board Hears A.G.C. Recommendations .. 31

RESEARCH • METHODS

First Prestressed Building Slab Poured 35

BUILDING

States Plan New Offices and Hospitals 41
New Methods Work on Large Tilt-Up Job 41

HIGHWAYS • AIRPORTS

Highway Officials Told to Push Construction 47
Kentucky Tries Ditch Work by Contract 47
Highway Revenues Uptrend Continues 54

HEAVY • RAILROAD

A.G.C. Reviews Contract Issues with the Navy 56

NATIONAL ASSOCIATION

A.G.C.'s 33rd Convention to Study '52 Problems 60

CHAPTERS • BRANCHES

A.G.C. Charters Presented to Maine and El Paso Chapters 63
California Chapters Form Joint Labor Committee 67
A.G.C. Branch and Chapter Meetings 72

ACCIDENT PREVENTION

Support of A.G.C. Safety Program Urged 73

ALSO IN THIS ISSUE

News of the Month 5
Constructographs 7, 9, 11
Consumers' Price Index 15
Sidelights for Contractors ..... *John C. Hayes* 17
Editorials 19
New Equipment and Materials 76
Advertisers' Products 83
Index of Advertisers 87

EXECUTIVE DEPARTMENT

H. E. FOREMAN, *Editor* — JOHN C. HAYES, *Legal Adviser* — JOHN B. SWEM, *Assistant Treasurer*

BOARD OF DIRECTORS

GEORGE B. WALBRIDGE, *President* — WILLIAM MUIRHEAD, *Secretary-Treasurer*

H. E. FOREMAN, *Vice-President* — G. W. MAXON, *Director* — B. L. KNOWLES, *Director*

EDITORIAL DEPARTMENT

WILLIAM E. WOODRUFF, *Managing Editor* — WILLIAM G. DOOLY, JR., *News Editor*

BUSINESS DEPARTMENT

M. S. BECK, *Business Manager* — GENEVIEVE MORRIS, *Assistant*

COVER

The 453rd Engineer Construction Battalion blasts fallen steel truss span to clear the way for reconstruction of this Han river railroad bridge, one of some 58 bridges which this reserve unit, sponsored by the Spokane Chapter, A.G.C., has repaired during the battle in Korea. For underwater blasting, only Korean divers were available. More pictures and a story of the 453rd's feats are on pages 26-27.

Editorial and Advertising Offices
Munsey Building, Washington 4, D. C. (DIstrict 1306)

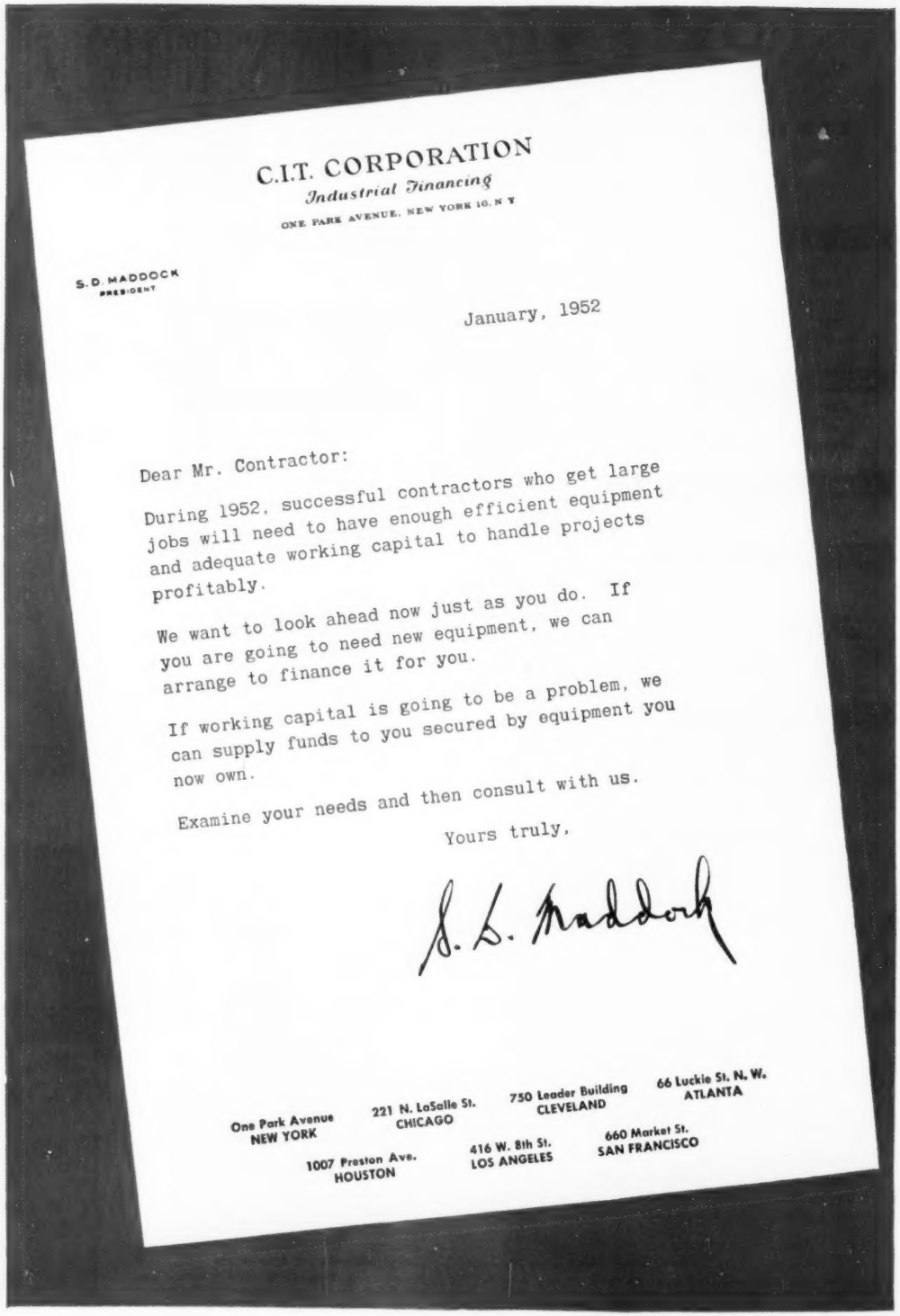
Eastern Advertising Office
Empire State Building, New York City 1, S. L. Feiss, Eastern Manager (LOngacre 4-6634)

Western Advertising Office
30 North La Salle Street, Chicago 2, L. B. Hammond, Western Manager (RAndolph 6-1843)

West Coast Advertising Office
M. D. Pugh, 2721 N. Marengo, Altadena, Calif. (SYcamore 7-2894)

The Official Publication of The Associated General Contractors of America, Inc.

Published monthly. Editorial and Executive Office, Munsey Building, Washington 4, D. C. Subscription price $5.00 per year, 40¢ per copy (July $2.00). Re-entered as second class matter June 10, 1949, at the Postoffice at Washington, D. C., under the Act of March 4, 1879. Copyright 1952 by The Constructor, Inc.



C.I.T. CORPORATION

Industrial Financing

ONE PARK AVENUE, NEW YORK 16, N Y

S. D. MADDOCK
PRESIDENT

January, 1952

Dear Mr. Contractor:

During 1952, successful contractors who get large jobs will need to have enough efficient equipment and adequate working capital to handle projects profitably.

We want to look ahead now just as you do. If you are going to need new equipment, we can arrange to finance it for you.

If working capital is going to be a problem, we can supply funds to you secured by equipment you now own.

Examine your needs and then consult with us.

Yours truly,

S. D. Maddock

One Park Avenue NEW YORK
221 N. LaSalle St. CHICAGO
750 Leader Building CLEVELAND
66 Luckie St. N. W. ATLANTA
1007 Preston Ave. HOUSTON
416 W. 8th St. LOS ANGELES
660 Market St. SAN FRANCISCO

All-time record construction volume of $39 billion was put in place in 1951. Reflecting the temper of the times, military, naval and atomic energy construction jumped 400% over '50 and a virulent outbreak of industrial expansion for defense sent building in that classification to a new peak. Conversely, residential, commercial and highway construction fell off. For 1952 outlook story, see page 21.

A slowdown in public works construction was predicted by Defense Production Administrator Fleischmann for first six months of '52. He promised an "adequate" supply for steel for highways and schools during the tight period and general relief from the shortage in latter half of the year. (Page 22)

The St. Lawrence Seaway controversy is expected to be revived this month by another request for Congressional approval by President Truman. Canada has announced intentions of going ahead on the $800 million project if the U. S. won't cooperate.

U. S. steel production will reach 120 million tons a year in 1953 as compared with Russia's 28 million tons and Britain's 18 million tons, Defense Mobilizer Charles E. Wilson told newsmen in Washington last month.

The first prestressed concrete slab for building in the U. S. has been poured by a Texas research institute. The slab, prestressed two ways, is being erected as a laboratory roof by the Youtz-Slick method, at reported steel savings of 62%. (Page 35)

New state office buildings, some running into multi-million-dollar projects, have been approved by 1951 legislatures all across the country. State governments, renting office space in privately owned buildings, are creating building authorities to plan and finance their own structures. (Page 41)

Construction funds for highways are likely to follow the continuing uptrend in gasoline revenues throughout the states. New increases in gasoline and vehicle taxes are swelling highway revenues ($26.5 million in Michigan—$40 million in Illinois from gasoline tax boosts, more monies from added heavy vehicle registration fees). (Page 34)

Ditching by contract has worked successfully, a Kentucky highway official reports, on a 100-mile experimental test in his state. The job, usually reserved for state forces, was done efficiently and economically by local contractors. (Page 47)

The 33rd annual convention of The Associated General Contractors of America is slated for Detroit next month. Leaders in the construction field will address members of the association, meeting to pool their experiences under the defense program. (Page 60)

10 Class B steel products, reclassified as controlled materials beginning with 1st quarter, 1952, are: Die blocks; galvanized, corrugated, V-crimp and channel drain roofing; valley and flashing ridge rolls; bright steel wire, steel cut, galvanized, cement-coated and painted nails, spikes and brads; fencing and poultry staples; wire rope and strand; woven wire netting; and welded wire mesh.

Specifications and other matters of interest between contractors and the Navy were discussed at a meeting last month between a task unit from The Associated General Contractors of America and representatives from the Bureau of Yards and Docks. The construction men were assured that issues debated (the Navy's requirement of 100% bid bonds, the "additive items" phrase, etc.) would be reviewed.

A request that certain construction contracts not be subjected to renegotiation was made last month to the Renegotiation Board by the A.G.C. The general contractors' national representatives asked the board not to require renegotiation of contracts not directly related to the national defense and to inform prospective bidders before a contract is offered if it would be subject to renegotiation. Other recommendations made by the association on page 31.

The recent Supreme Court decision upholding the finality of a department head's decision in a controversy with a contractor over a question of fact (in the absence of fraud) has been attacked from another source. The General Accounting Office, apprehensive that government department heads may use their new power to arbitrarily toss away public funds without fear of review, may ask legislative relief from Congress. (Page 17)

A 2,000-mile parkway along the Mississippi River has been proposed in an inter-agency report sent last month to the 10 states involved. The parkway route, from Lake Itaska, Minn., was laid out by the Bureau of Public Roads and the National Park Service after extensive aerial photography. Congress appropriated $250,000 for the study.

Prospective revisions of Order M-4-A, further limiting construction, and other matters were to be discussed by the Construction Industry Advisory Committee to National Production Authority at a meeting to be held in Washington January 9. President Maxon and other A.G.C. representatives were to attend.

Accumulated needs for new water treatment and sewage disposal plants continue to be publicized by the U. S. Public Health Service. Latest reports describe the insufficiencies of the New England, Colorado River and Pacific Northwest drainage basins where, the agency claims, hundreds of new plants should be constructed. (Page 56)

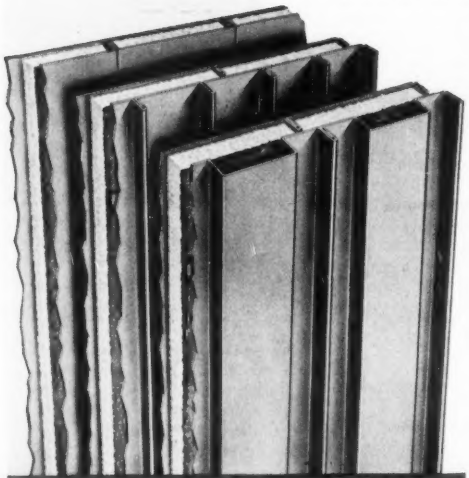
In Korea, an A.G.C.-sponsored reserve unit (by the Spokane Chapter) is winning praise for its bridge-building achievements. The 453rd Engineer Construction Battalion's success on two major assignments is described in detail on page 26.

Support of the A.G.C.'s safety program was urged by President G. W. Maxon in a letter to presidents of the association's chapters and branches. Mr. Maxon warned that the construction industry's record of 93 deaths per 100,000 workers in 1950 will provoke government regulations unless the industry itself takes constructive and decisive steps to reduce accidents. (Page 73)

INSULATED METAL WALLS

for INDUSTRIAL and COMMERCIAL BUILDINGS

ALUMINUM, STAINLESS or GALVANIZED STEEL



FLUSH, RIBBED, or FLUTED
Over-all "U" Factor of Various Types is Equivalent to or Better than Conventional 16" Masonry Wall

The trend in modern building is to this permanent, economical, quickly erected wall construction. In the past ten years Mahon Insulated Metal Walls have been employed in the construction of every conceivable type of building up to and including great power houses and complete industrial plants like the one illustrated below, in which 127,600 sq. ft. of exterior wall surface and all coping, flashing, etc., are aluminum. Mahon Insulated Metal Walls are available in two "Field Constructed" types, and in two types of "Prefabricated Panels", flush, ribbed, or fluted exterior. Walls of the "Field Constructed" type may be erected up to fifty feet in height without horizontal joints—a feature of Mahon walls which is particularly desirable in power house construction where high expanses of unbroken wall surface are often unavoidable. Mahon Prefabricated Insulated Metal Wall Panels, ready for rapid erection in the field, can be furnished in any length up to thirty feet. All Mahon wall plates and panels are one foot wide. These Mahon Insulated Metal Walls, together with a Mahon Steel Deck Roof, provide the ultimate in economy, permanence, and fire-safety in modern construction. See Sweet's Files for complete information including Specifications, or write for Catalog No. B-52-B.

THE R. C. MAHON COMPANY

Detroit 34, Mich. • Chicago 4, Ill. • Representatives in Principal Cities

Manufacturers of Insulated Metal Walls; Steel Deck for Roofs, Partitions, and Permanent Concrete Floor Forms; Rolling Steel Doors, Grilles, and Underwriters' Labeled Rolling Steel Doors and Fire Shutters.

Mahon Insulated Metal Walls employed in construction of a new plant for Ford Motor Company in Cleveland, Ohio. F. A. Fairbrother and Geo. H. Miehls, Architect-Engineer. Albert Kahn Associated Architects and Engineers, Inc., Consultants. H. K. Ferguson Company, General Contractors.

MAHON

A Series of Graphs Outlining the Construction Trend

Compiled by The Associated General Contractors of America

TREND OF CONSTRUCTION COSTS

The average of construction costs in the principal construction centers of the United States for December stands at Index Number 380, according to the A.G.C. Index. The cost figure for December 1950 was 371. The 1913 average equals 100.

WAGE AND MATERIAL PRICE TRENDS

The average of wages in the principal construction centers of the United States stands at 512 for December. One year ago the average stood at 494. The average prices paid by contractors for basic construction materials for December stands at Index Number 292. The average a year ago stood at 290. The 1913 average, again, equals 100.

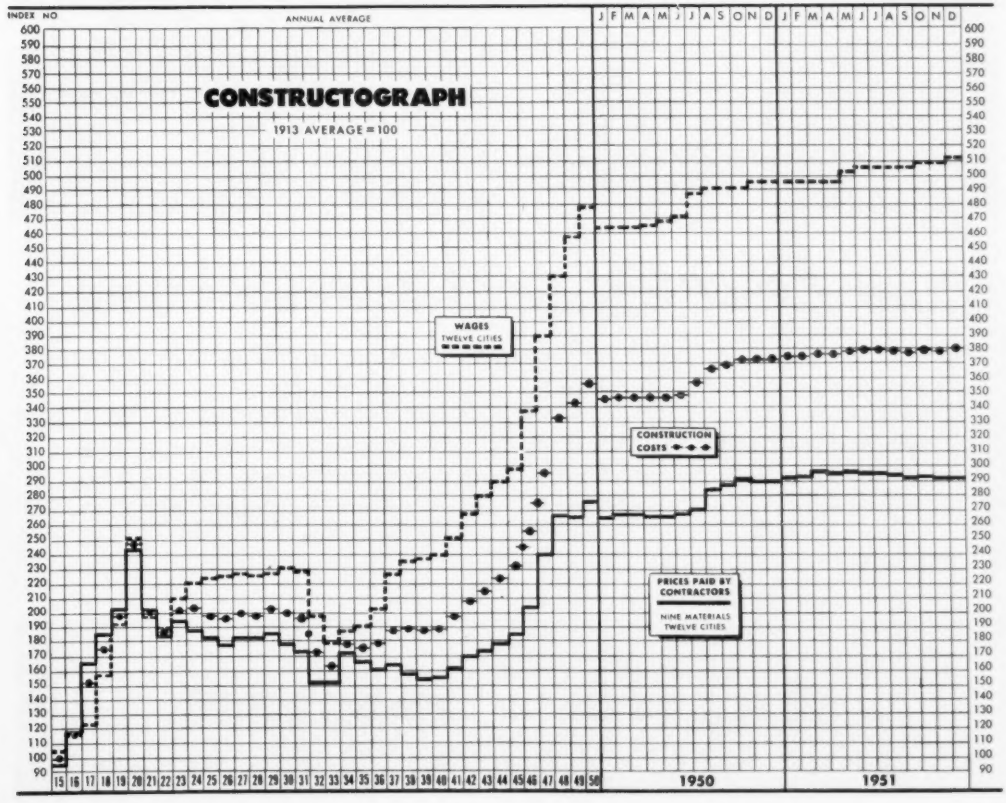
CONTRACT AWARDS IN 37 STATES

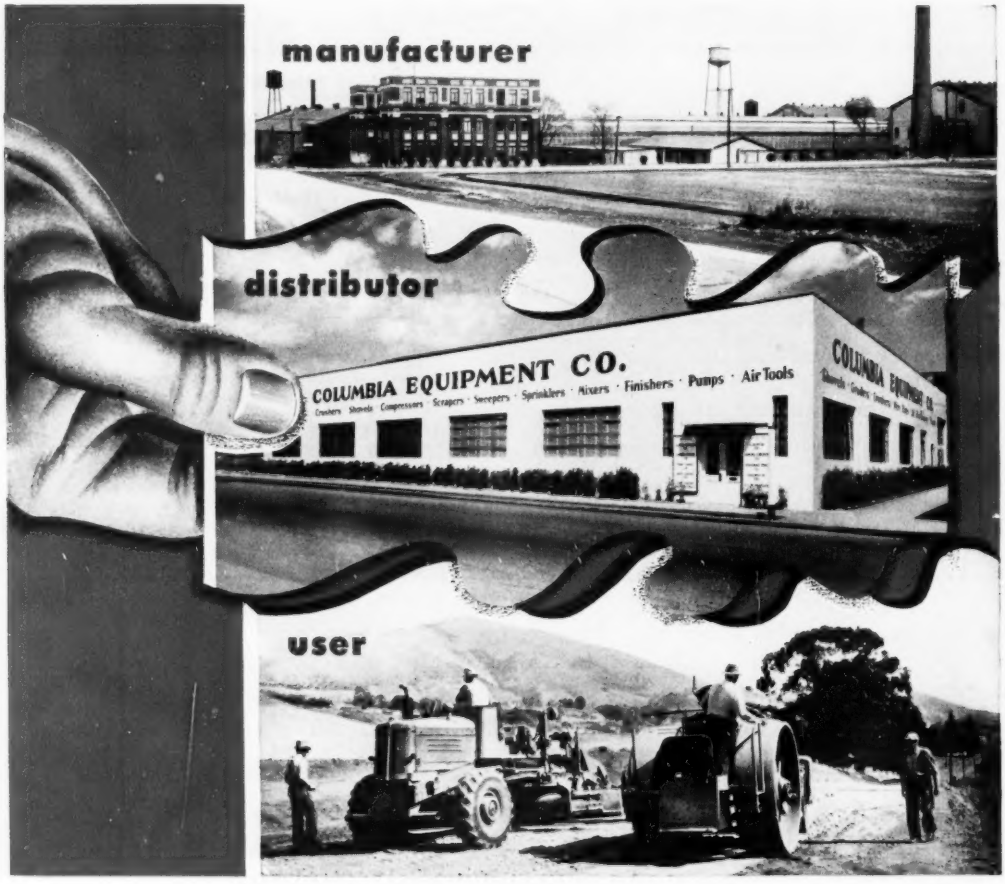
The volume of contracts awarded during November (Index Number 186, based on 1936-1938) is a decrease of 24 points from October, and a decrease of 36 points from November 1950.

REVENUE FREIGHT LOADINGS

Revenue freight loaded during the first 51 weeks of 1951 totaled 39,995,430 cars. For the same period in 1950, loadings amounted to 38,300,234 cars. This represents an increase of 4 per cent.

● Wage, Material Price and Construction Cost Trends


INDEX NO
ANNUAL AVERAGE
J F M A M J J A S O N D J F M A M J J A S O N D
CONSTRUCTOGRAPH
1913 AVERAGE = 100
WAGES
TWELVE CITIES
CONSTRUCTION COSTS
PRICES PAID BY CONTRACTORS
NINE MATERIALS
TWELVE CITIES
15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50
1950
1951


manufacturer
distributor
COLUMBIA EQUIPMENT CO.
Crushers · Shovels · Compressors · Scrapers · Sweepers · Sprinklers · Mixers · Finishers · Pumps · Air Tools
COLUMBIA EQUIPMENT CO.
user

AN *Essential Part* OF THE PICTURE

It has been said that America has solved the problem of low-cost production of machines and goods, but that the problem of efficient, economical distribution remains largely unsolved. However true this may be in other fields, we sincerely believe that it is not true of the construction equipment industry, where the Distributor has enjoyed the confidence of his customers in times of peace, and has more than justified that confidence during troubled and uncertain periods when wars and "rumors of wars" bring about shortages of men and machines.

Your nearby Austin-Western distributor, with his skilled mechanics and adequate shop facilities, considers it his primary responsibility to help you get the utmost in service and satisfaction from the products he sells . . . is an especially good man to know in times like these.

AUSTIN-WESTERN COMPANY · *Subsidiary of Baldwin-Lima-Hamilton Corporation* · **AURORA, ILLINOIS, U.S.A.**

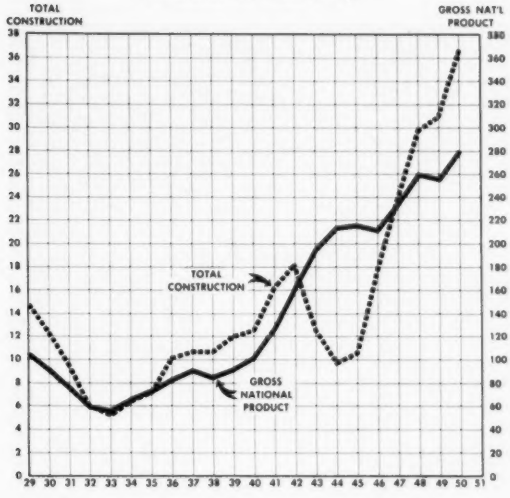
Austin Western

BALDWIN BLH LIMA-HAMILTON

SINCE 1859—BUILDERS [illegible] CONSTRUCTION EQUIPMENT

● TOTAL Construction compared with Gross National Product

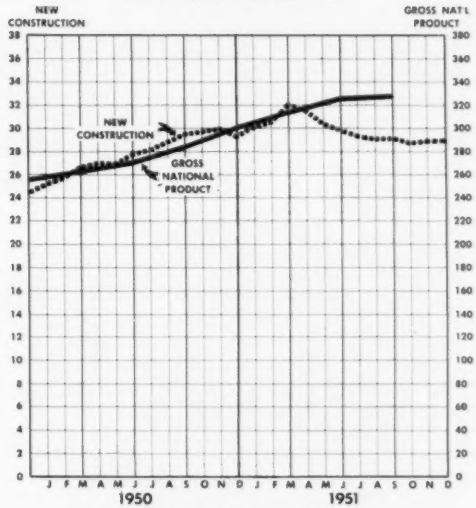
(BILLIONS OF DOLLARS)



DATA SUPPLIED BY DEPT. OF COMMERCE

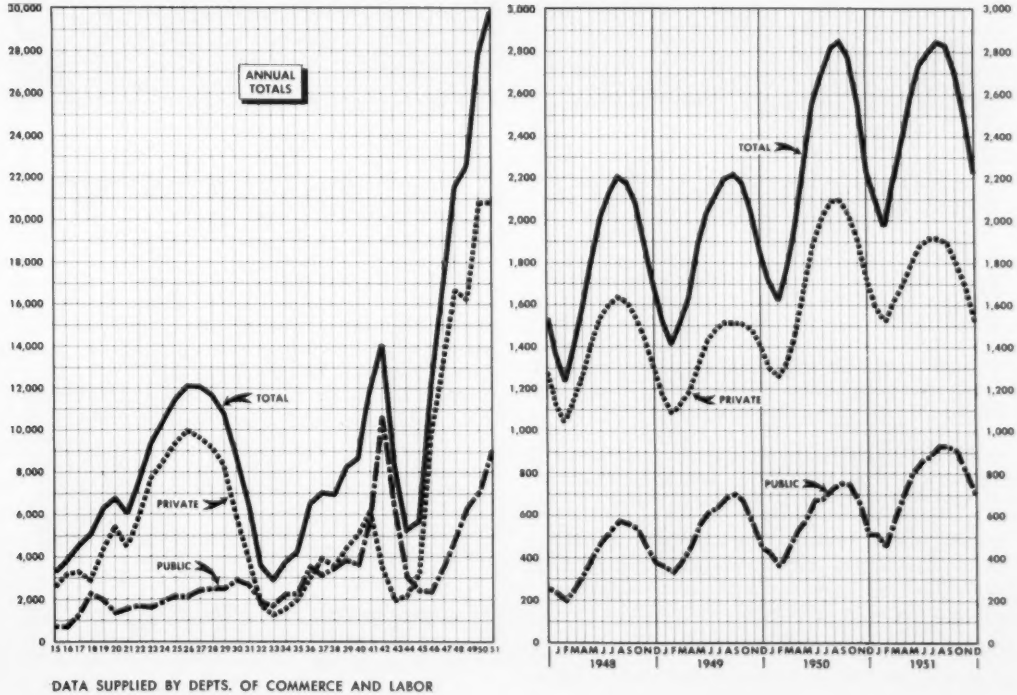
● NEW Construction compared with Gross National Product*

(BILLIONS OF DOLLARS)



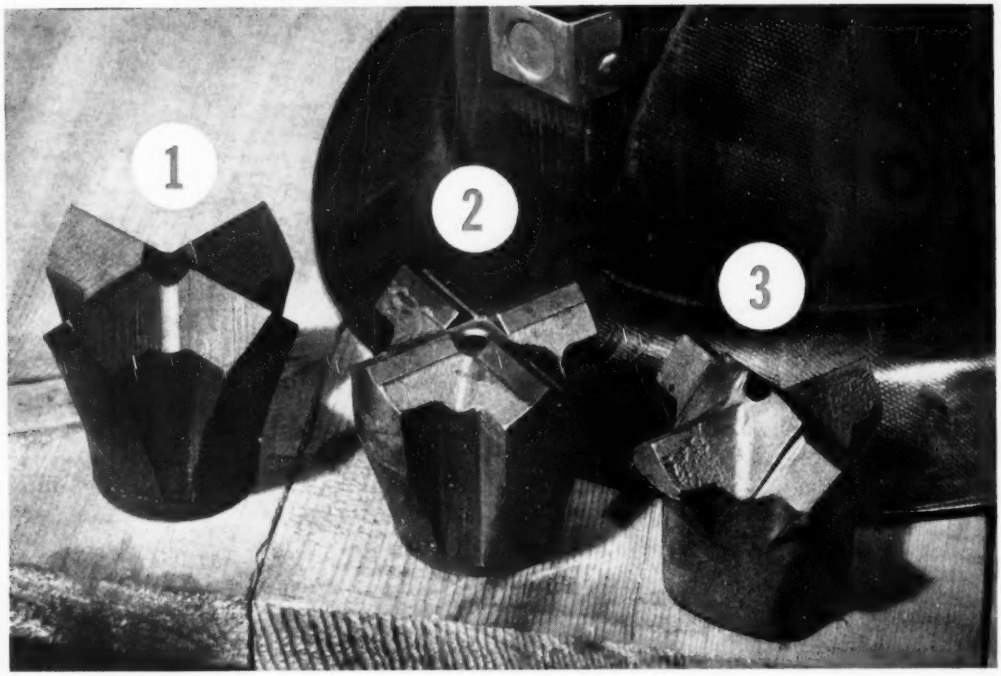
Seasonally adjusted at an annual rate

● New Construction Activity (MILLIONS OF DOLLARS)



DATA SUPPLIED BY DEPTS. OF COMMERCE AND LABOR

Only the Timken Company offers all 3 rock bit types



and a complete Rock Bit Engineering Service!

FOR the best rock bit type for your job, go to the Timken Company. Only the Timken Company makes *all three* rock bit types:

1 **MULTI-USE.** Gives lowest cost per foot of hole when full increments of drill steel can be drilled and when control and reconditioning of bits are correct.

2 **CARBIDE INSERT.** For drilling extremely hard and abrasive ground, small holes, extra deep holes. Holes go down faster, bit reconditioning is simplified.

3 **ONE-USE "SPIRALOCK".** For use where reconditioning is not feasible. Gives lowest unit cost of the three types. "Spiralock" union holds bit on dependably, permits easy removal.

And because the Timken Company makes all three types, only the Timken Company offers you a *complete* Rock Bit Engineering Service. Backed by 20 years' experience in solving rock bit problems, our rock bit engineers will give you an unbiased recommendation of the one bit to meet your drilling needs; whether you're looking for lowest bit cost, lowest cost per foot drilled, greatest possible drilling speed, or any other desired advantage.

FREE BOOKLET! Shows full line of bits with detailed descriptions, plus other useful rock bit data. Write The Timken Roller Bearing Company, Rock Bit Division, Canton 6, Ohio. Cable address: "TIMROSCO".

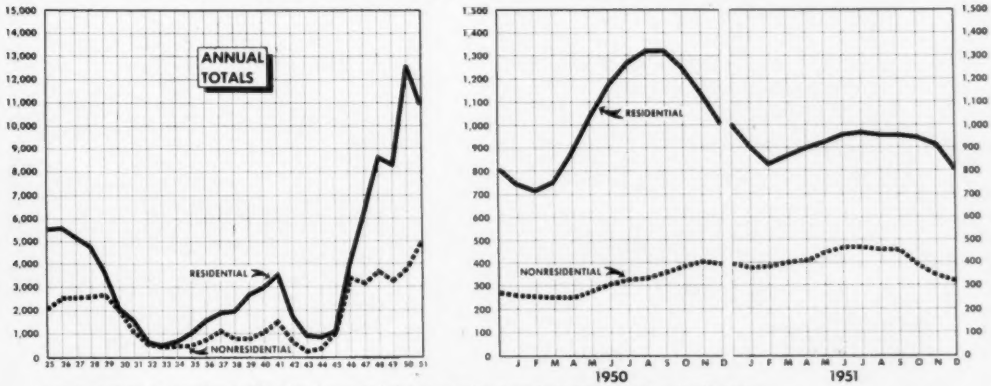
... your best bet for the best bit ... for every job

TIMKEN

TRADE-MARK REG. U.S. PAT. OFF.

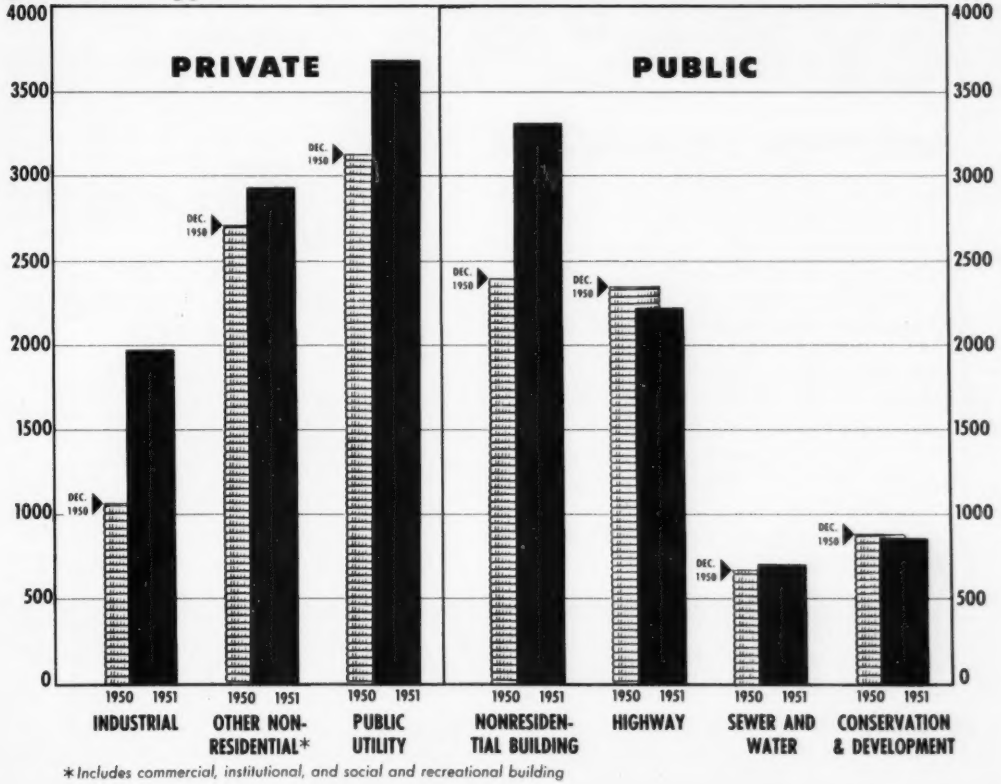
NEW CONSTRUCTION ACTIVITY

● Private Residential and Nonresidential Building* (MILLIONS OF DOLLARS)

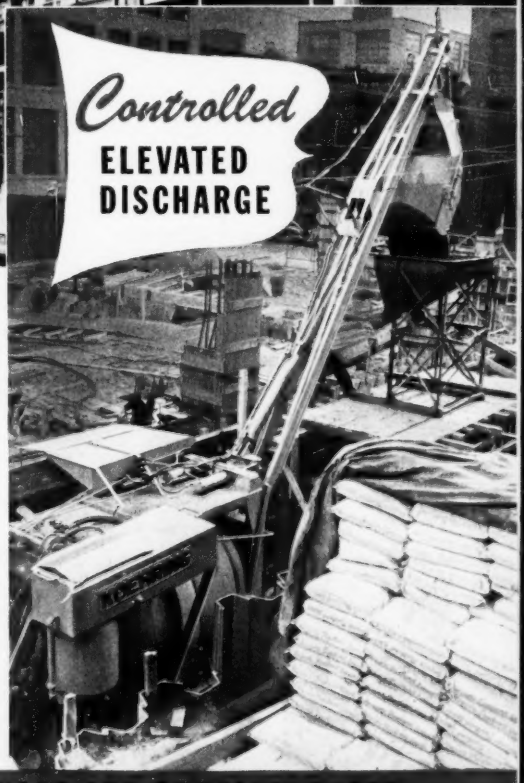


* Residential excludes farm; Nonresidential includes industrial, commercial, institutional, and social and recreational building, but excludes public utility building.

● Selected Types: (CUMULATIVE, MILLIONS OF DOLLARS) 1950 and 1951 VOLUME THROUGH DECEMBER



*Includes commercial, institutional, and social and recreational building



MOBILE, VERSATILE, 16-E *twinbatch*®

offers a new low-cost method of producing concrete for floors, foundations, pilings on building construction . . . bridges, aqueducts, tunnels, retaining walls, culverts, streets, highway widening, special batching, etc. Boom elevates 60°, swings in a 160° arc, reaches up and out, bucket discharges controlled batch into overhead forms, hoppers or chutes at a height of 21 feet (higher with special boom). The 16-E mixes and distributes up to 50 cu. yds. per hour, exceeding capacity of larger 27-E single-drum paver. 7-second skip hoist, split-second Autocycle mixing, vertical syphon-type water tank all reduce cycle time and assure maximum-strength concrete. This rubber-tired 16-E *twinbatch* also works over pavement, drives job to job at 6 m.p.h. Ask, too, about Koehring 34-E *twinbatch* for your major paving jobs.

KOEHRING HEAVY DUTY

SEE YOUR KOEHRING DISTRIBUTOR FOR COMPLETE FACTS

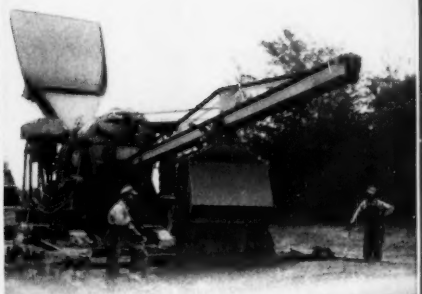
KOEHRING *twinbatch*® PAVERS

FINISHERS • CONSTRUCTION MIXERS • CRANES • EXCAVATORS • DUMPTORS® • MUD-JACKS®

KOEHRING Company, Milwaukee 16, Wisconsin *Subsidiaries . . .*

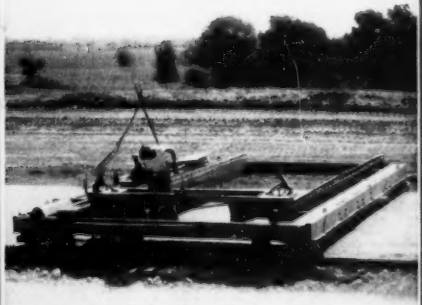
BUCKET TRAVELS 183 FT. PER MIN.

on horizontal boom (92' per min. elevated) . . . pours controlled batch anywhere along boom. Simultaneous bucket travel and boom swing speed distribution with 16-E.



BIG-PRODUCTION 34-E *twinbatch*

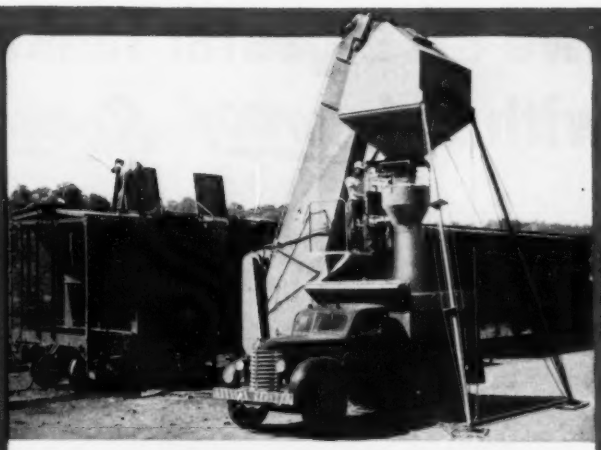
hits top output of 86.7 batches an hour (60-second mixing time). This reserve production capacity picks up lost time from normal delays, assures fast schedules.



"TIMELY", PRECISION-FINISHING

Koehring Longitudinal Finisher can operate at almost twice the speed of a 34-E paver, produce mechanically-accurate slabs, 8 to 30', with uniform crown transitions.

. . . JOHNSON • PARSONS • KWIK-MIX



DUAL-PURPOSE ELEVATING CHARGER

. . . For batching, Johnson Elevating Cement Charger has a size 14, 1000-lb. capacity cement weigh batcher, hung under a 33-bbl. overhead storage hopper . . . or, for charging dual-batch trucks, two 1000-lb. weigh batchers can be used. It's quickly adapted to transfer plant by removing batchers and batcher cone, and bolting a 50-bbl. extension section to hopper. Charger is easily moved, erected by dump truck, no crane needed. See your Johnson distributor, too, for mix plants, buckets, bins, elevators, batchers, silos.

C. S. JOHNSON Company, Champaign, Ill. *(Koehring Subsidiary)*

221 TRENCHLINER® HAS 30 DIGGING FEEDS

. . . 3 bucket line and conveyor belt speeds, 4 travel speeds, plus full reverse of all operations . . . produces clean-cut trenches 16 to 36" wide, up to 8'-6" deep. Flexibility is further increased with shiftable boom for digging behind either crawler . . . 1-minute power-shift conveyor for discharging right or left . . . constant discharge height for loading trucks. Let your Parsons distributor tell you more about this heavy-duty 221. He can also show you 4 other Trenchliner sizes that will suit your exact trenching requirements.

PARSONS Company, Newton, Iowa *(Koehring Subsidiary)*

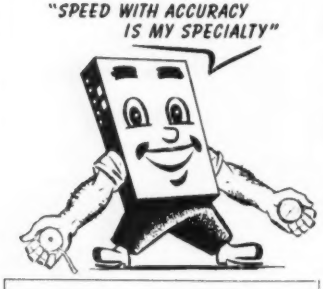
W48

Two 80′ Digester Tanks UNI-FORMED with... *Accuracy Speed Economy!*

5 Men
Erected and Braced
4500 sq. ft. in 20 hrs.
Walls Checked within ¼" of True Round
SAFETY FIRST!
Clear Working Area . . .
Faster Forming . . . Easier
Concrete Placement

Part of
Tucson Sewage Treatment Plant
M. M. Sundt Construction Co.,
Contractors

Only UNI-FORMS Provide 3-Way Savings . . . Time . . . Labor . . . Materials



THE JOB: Form and pour two 80′ digester tanks. Walls vary from 15 to 21 inches, are 32 feet high. Tolerance ½". Forms must check within ¼" of true round. Concrete to be high density, watertight consistency with a smooth face.

THE PROBLEM: Maintain required tolerances. Form and hold two pours—18 and 14 ft. high. Obtain maximum speed and economy in entire forming and pouring operation.

THE RESULT: UNI-FORMS were used to form the job. In spite of the high lift and accuracy required, alignment and bracing was necessary on 1 side only. Accuracy was maintained throughout. Erection of panels was fast—5 men erected 4500 sq. ft. of first lift in 20 hours. Finished concrete surface met specifications for smoothness. Contractor expects to finish job several months ahead of schedule. Congratulations to M. M. SUNDT CONSTRUCTION CO. for a job well done!

BRANCH OFFICES and Warehouses
2314 PRESTON AVENUE, HOUSTON, TEXAS
2175 W. COMMERCE STREET, DALLAS, TEXAS
51 BARNSTABLE STREET, SWAMPSCOTT (Boston) MASS.
24901 LAKELAND BOULEVARD, EUCLID (Cleveland) OHIO
661 S. MONROE STREET, BALTIMORE, MARYLAND
2522 POPLAR AVENUE, SPRINGFIELD, ILLINOIS
2051-59 WILLIAMS STREET, SAN LEANDRO, CALIFORNIA
4401 W. CAYUGA STREET, TAMPA, FLORIDA

WRITE FOR YOUR COPY OF THE UNI-FORM CATALOG

UNIVERSAL FORM CLAMP CO.
CONCRETE FORM SPECIALISTS
FOR 39 YEARS
1238 N. KOSTNER DEPT. 141J CHICAGO 51, ILL.

For Moderate Income Families in Large Cities

(Formerly referred to as the "Cost of Living Index," compiled by the Bureau of Labor Statistics)

THIS table indicates the average changes in retail prices of selected goods, rents and services bought by the average family of moderate income from September 15, 1949 to November 15, 1951.

They are presented here for use by employers who may wish to take these cost of living data into consideration when contemplating adjustments of wages based on increased living costs.

The Bureau of Labor Statistics surveys 10 key cities every month and 24 other large cities quarterly. Prices are obtained on food, fuel, apparel, house furnishings and miscellaneous goods and services. Rental information is obtained quarterly only for all cities. The computations are based on the indexes for the years 1935-39, which are taken as the average of 100 points.

	1949			1950			1951		
	SEPT. 15	OCT. 15	NOV. 15	SEPT. 15	OCT. 15	NOV. 15	SEPT. 15	OCT. 15	NOV. 15
Average	169.6	168.5	168.6	173.8	174.8	175.6	186.6	187.4	188.6
Birmingham, Ala.	171.8	170.3	170.5	179.7	179.1	180.3	191.4	196.0	196.3
Mobile, Ala.	169.2	.....	.....	172.9	.....	.....	185.6	.....	.....
Los Angeles, Calif.	167.1	166.5	166.6	169.5	171.3	173.2	187.2	187.9	189.6
San Francisco, Calif.	173.0	.....	.....	176.0	.....	.....	184.4	.....	.....
Denver, Colo.	.....	164.6	.....	.....	172.8	.....	.....	191.2	.....
Washington, D. C.	.....	.....	166.2	.....	.....	171.9	.....	.....	184.7
Jacksonville, Fla.	176.5	.....	.....	182.4	.....	.....	192.0	.....	.....
Atlanta, Ga.	.....	.....	170.5	.....	.....	178.9	.....	.....	196.1
Savannah, Ga.	.....	173.4	.....	.....	181.6	.....	.....	197.8	.....
Chicago, Ill.	175.8	174.4	175.3	179.8	180.4	180.6	191.8	193.5	194.3
Indianapolis, Ind.	.....	172.1	.....	.....	179.8	.....	.....	189.7	.....
New Orleans, La.	.....	.....	173.3	.....	.....	178.5	.....	.....	190.0
Portland, Me.	164.9	.....	.....	167.9	.....	.....	178.6	.....	.....
Baltimore, Md.	174.0	.....	.....	178.1	.....	.....	190.5	.....	.....
Boston, Mass.	165.4	164.1	164.0	168.2	169.4	169.6	177.8	179.3	180.0
Detroit, Mich.	170.4	168.7	169.8	175.4	177.7	179.2	189.0	190.2	191.5
Minneapolis, Minn.	168.3	.....	.....	173.2	.....	.....	183.1	.....	.....
Kansas City, Mo.	.....	161.1	.....	.....	167.4	.....	.....	180.4	.....
St. Louis, Mo.	168.9	.....	.....	175.0	.....	.....	186.2	.....	.....
Manchester, N. H.	.....	169.3	.....	.....	176.2	.....	.....	187.0	.....
Buffalo, N. Y.	.....	167.4	.....	.....	173.0	.....	.....	186.9	.....
New York, N. Y.	167.5	165.9	165.8	170.3	171.0	172.1	182.5	183.0	184.1
Cincinnati, Ohio	170.8	168.7	168.3	175.5	176.0	176.0	186.8	187.0	187.8
Cleveland, Ohio	.....	.....	170.3	.....	.....	178.6	.....	.....	192.0
Portland, Ore.	.....	173.6	.....	.....	183.4	.....	.....	195.8	.....
Philadelphia, Pa.	169.6	168.9	168.6	173.6	173.8	174.1	186.1	186.7	189.1
Pittsburgh, Pa.	172.3	171.1	171.3	177.7	179.2	178.9	190.0	191.2	192.0
Scranton, Pa.	.....	.....	166.3	.....	.....	173.7	.....	.....	185.4
Memphis, Tenn.	172.7	.....	.....	177.2	.....	.....	189.0	.....	.....
Houston, Tex.	171.4	172.0	173.3	179.8	179.9	181.1	194.1	194.4	195.1
Norfolk, Va.	.....	.....	168.2	.....	.....	177.0	.....	.....	191.7
Richmond, Va.	.....	164.9	.....	.....	171.6	.....	.....	183.8	.....
Seattle, Wash.	.....	.....	171.6	.....	.....	180.8	.....	.....	194.6
Milwaukee, Wis.	.....	.....	168.4	.....	.....	179.1	.....	.....	195.3

Cummins® Diesels do so many jobs... so much better

...because they're custom-built to fit the job!

On-highway trucks, buses

Industrial locomotives, cranes, shovels

Logging yarders and loaders, crawler tractors

Drilling rigs, centrifugal pumps, generator sets

Earthmovers, off-highway trucks

Work boats, pleasure craft

Lightweight, high-speed Diesels (50-550 hp) for these and many other uses

...because they're

BUILT NOT ONCE BUT TWICE

Need rugged power? Then you need lightweight, high-speed Cummins Diesels, custom-built to fit your needs. Each engine is built *twice*. It's assembled, run-in tested, disassembled and inspected, then reassembled and tested again. Consider Cummins' craftsmanship; the exclusive Cummins fuel system; our efficient and expanding parts and service organization. These all add up to minimum "down-time", more power and profit for the user. See your Cummins Dealer.

Diesel power by CUMMINS

CUMMINS Dependable DIESEL

TRADEMARK REG. U. S. PAT. OFF.

CUMMINS ENGINE COMPANY, INC., COLUMBUS, INDIANA

Export: Cummins Diesel Export Corporation • Columbus, Indiana, U. S. A. • Cable: Cumdiex

Sidelights for Contractors

By John C. Hayes, *Legal Adviser*

Taxes

Repayment of Dividend.—The valid declaration and payment of a dividend by a corporation to its stockholders constitutes taxable income to the latter, the Tax Court ruled, despite a voluntary return of the funds by the stockholders later in the same year after the corporation's directors adopted a resolution purporting to rescind the declaration and payment of the dividend.

Debt Forgiveness.—A Court of Appeals decided that a corporation in an unsound financial condition, but not insolvent, realized taxable income on the settlement of its federal excise tax indebtedness and the purchase of its own bonds at less than full amount. In accepting settlement of the tax liability, the government had neither expressly nor impliedly manifested any intention of making a gift to the taxpayer but had sought the best settlement it could get. Under Internal Revenue Code Section 22 (b) (9), a corporation may exclude income attributable to the discharge of its indebtedness on a security if the taxpayer files a consent in the prescribed manner agreeing to a reduction in basis of its property. While the corporation here concerned filed an amended return and a consent in a subsequent year, the court felt it was filed too late.

Over-ceiling Payments.—Amounts paid as part of the purchase price of goods, although in excess of ceiling limitations, are fully deductible from gross income on the resale thereof, the Tax Court has held in two recent cases.

Constructive Receipt.—Where a purchaser of stock agreed that the shares could be retained by the seller as the record owner until payment was completed and that dividends received by the seller during such time would be kept by him but credited against the purchase price, the Tax Court concluded that these dividends were constructively received by the purchaser and were taxable as ordinary income.

Deductions on Residence.—In a case involving the facts that a property owner had abandoned his house as a residence in 1942 and had tried unsuccessfully to rent it until 1945, when it was sold at a loss, the Tax Court ruled that depreciation and maintenance expenses for 1943, 1944, and 1945 were deductible, since the property was then held for the production of income, but that the loss on the sale was not deductible, since it did not result from a transaction entered into for profit. Had the rental efforts been successful, the court indicates the loss on sale would have been deductible.

Pre-1913 Deficit.—Distributions by a corporation to its stockholders in 1938, 1939, and 1940 from its earnings accumulated subsequent to February 28, 1913, constitute taxable dividends rather than a return of capital to the latter, a Court of Appeals decided, without regard to the fact that there had existed operating deficits on the 1913 date. The court disagreed with the conclusion which the Tax Court had reached that there can be no accumulation of post-February 28, 1913, profits for the purpose of distributing taxable dividends until any impairment of capital at March 1, 1913, had been restored.

Year of Receipt.—A Court of Appeals concluded that a corporation's payments to its stockholders in 1943 and 1944 were not dividends taxable to the latter in those years, since the payments were made pursuant to a dividend declaration in 1926, at which time the individual accounts of the stockholders were credited with their pro rata shares and the amounts shown as accounts payable. The court felt that there had been constructive payment to stockholders in the earlier year.

Public Contracts

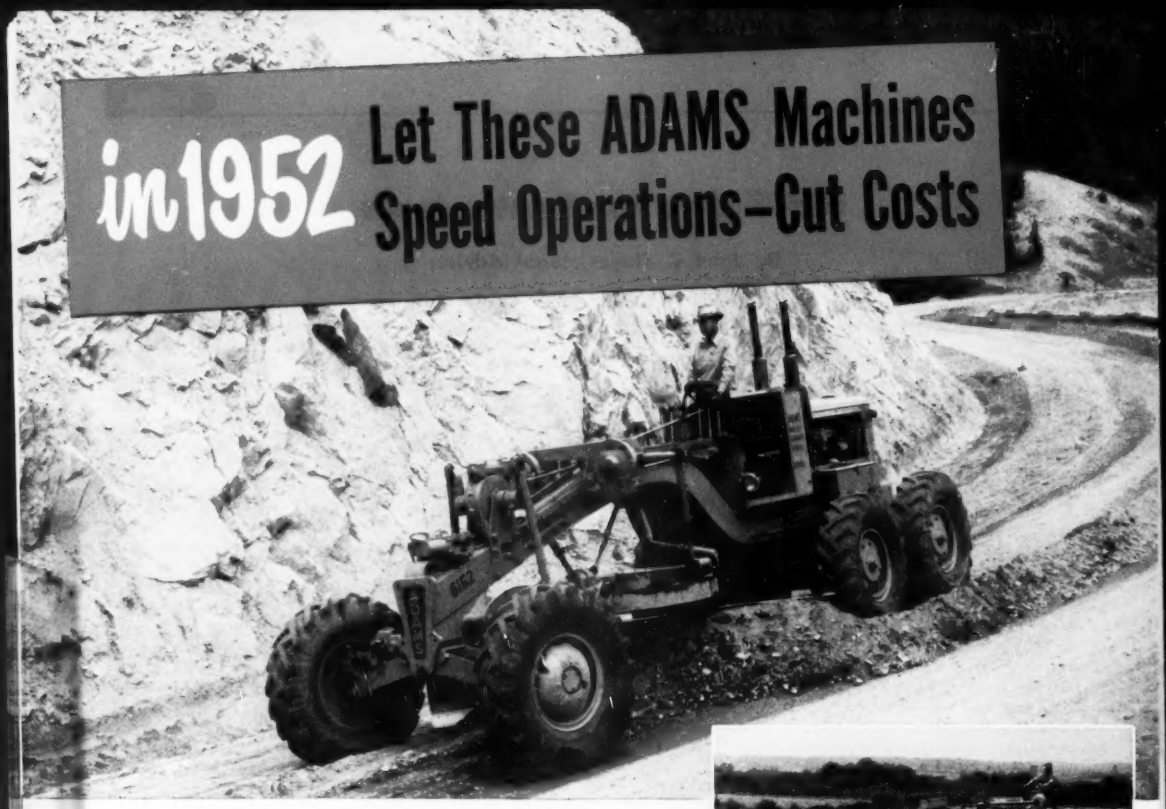
Disputes Clause.—Although the government's position was sustained by the Supreme Court in its Wunderlich decision, upholding the finality of a department head's decision under the Standard Article 15 disputes clause on a question of fact and in the absence of fraud (Opinion set out in full in December 1951 CONSTRUCTOR, pages 24-25. See also editorial therein, page 19.) the General Accounting Office has expressed its concern about the effects of the decision. While three dissenting members of the Supreme Court thought the decision unfair to contractors, the General Accounting Office is fearful that the court's opinion will permit department heads by arbitrary action to toss away public funds, with no recourse to the collection of refunds by the General Accounting Office. Should the decision prove wasteful of public funds, the General Accounting Office states that it would seek relief from Congress.

Assignment of Claims.—The primary concern of Congress in enacting the Assignment of Claims Act and the Contract Settlement Act during World War II was to insure the prompt performance of contracts, a Court of Appeals states, and neither Act nor other authority entitles the United States to restitution of contract overpayments made to a wartime Navy contractor's assignee by mistake of which the assignee was without knowledge.

Government's Delay.—The Court of Claims has denied a government contractor's claim for interest on loans, overdue taxes, and other obligations which it was forced to pay by virtue of a contracting officer's unjustified refusal to allow a price increase which was later permitted by the Armed Forces Board of Contract Appeals. While the complaint asked for damages, the court thought it actually amounted to an attempted recovery of unauthorized interest on a claim against the government.

Cost-Plus Contract.—Although arising under a private rather than a public contract, the following decision by a State Supreme Court is of general interest. Where a property owner terminated a cost-plus-percentage-of-cost contract prior to its completion, and the contract provided that the construction contractor was to be paid all cost plus ten percent of "costs of construction," the court held that the contractor could recover ten percent on the unused materials procured for the job as well as on materials actually used in construction.

in 1952 Let These ADAMS Machines Speed Operations–Cut Costs



Adams Pull-Type Graders—Most complete and up-to-date line on the market. Available in 8, 10 or 12 ft. blade sizes—power or hand controlled—with or without scarifier.

Adams TraveLoader—High-speed, self-propelled, belt-type machine. Picks up and loads any kind of windrowed material. Has many unusual features not found in other loaders.

Here's a real time-saving, money-saving clue for '52 . . . For highest production—at lowest cost—you can't beat the world-famous, now better-than-ever, Adams line.

Adams Motor Graders, for example, are unequalled for performance-ability, long-life dependability and economy of operation and maintenance. Available in several popular sizes, all Adams Motor Graders, from largest to smallest, offer such outstanding advantages as *8 Overlapping Forward Speeds* • *High-Arch Front Axle* • *Positive Mechanical Controls* • *Wide Range of Blade Adjustments* • and many others.

You'll find Adams Pull-Type Graders and TraveLoaders equally outstanding—the most efficient and dependable machines your money can buy. Let your local dealer demonstrate how this great Adams team can cut costs and increase profits for you in '52.

J. D. ADAMS MANUFACTURING CO. • INDIANAPOLIS, INDIANA

Adams

Motor Graders **TraveLoaders** **Pull-Type Graders**

$39 Billion Volume

THE TOTAL volume of construction activity set a new all-time record during 1951. This year the volume is expected to decline somewhat but still be high. This work by the industry is fundamental to the growth, progress and defense of the nation and its communities.

The amount of new construction put in place last year approached $30 billion. Maintenance and repair operations brought the total activity to approximately $39 billion.

This year a total of up to $37 billion in construction activity is possible, of which approximately $28 billion would be in new construction. This will be a year, however, of spotty activity with peak levels of work in some areas and severe drops in others.

The amount of construction to be executed this year will depend on the amount of defense construction, the production and distribution of materials, and the administration of controls.

The fact that nearly one dollar out of every eight created in end products and services in the United States was a construction dollar is indicative of the dynamic role occupied by the construction industry in vitalizing the mobilization program, while at the same time meeting the tremendous demand for essential civilian activities.

Because the products of the industry are so necessary to the national defense and essential civilian activities it is clear that government policies which influence the industry's productive capacity should be carefully considered. It is to be hoped that mobilization officials in the near future will be able to forecast when materials are likely to become available for what are now considered less essential projects so that public officials and others can plan future projects in advance and have them ready for construction when conditions permit.

Adequate Highways

VARIOUS MANUFACTURERS who have been directing public attention to the need for more adequate highways deserve the commendation of the construction industry.

A long-range highway construction program is necessary to develop the highway system to the point where it can handle the ever increasing volume of traffic with safety.

While the cost of the new and improved highways will be moderate in terms of vehicle-miles of travel, the total number of dollars which need to be spent in the next decade is a huge sum. A thorough understanding of the facts is needed for the public to support the necessary expenditures.

The Goodyear Tire and Rubber Co., Ford Motor Co., and Firestone Tire and Rubber Co. are manufacturers who recently have undertaken advertising campaigns to acquaint the public with the facts about our highways. The General Motors Corp. has issued a motion picture which is being shown throughout the country. The Caterpillar Tractor Co., Allis-Chalmers Co., and others in the past have pointed out the need for and the value of highway improvements.

The companies who use part of their advertising appropriations to help acquaint the public with the facts are performing a public service and deserve the construction industry's commendation.

Contract Renegotiation

PERTINENT INFORMATION about the general contracting industry and recommendations relative to construction contracts were given to the Renegotiation Board last month by The Associated General Contractors of America, as reported on page 31.

The Board is engaged in developing the regulations, policies and administrative procedures which will put into effect the Renegotiation Act of 1951, and guide the regional offices which are to be established to handle the work.

In the best interests of the government and the industry, the A.G.C. recommended:

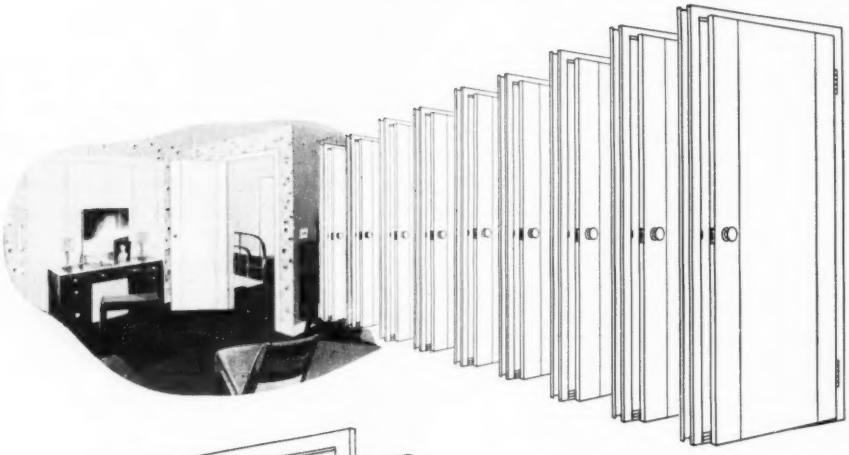
- Exemption of contracts awarded as the result of competitive bidding after public advertising.
- Exemption of contracts which do not have a direct or immediate connection with the national defense.
- Exemption of contracts for off-shore work.
- Permitting contractors the option of how their contracts are to be renegotiated.
- Consideration for individual problems of partners to joint ventures.

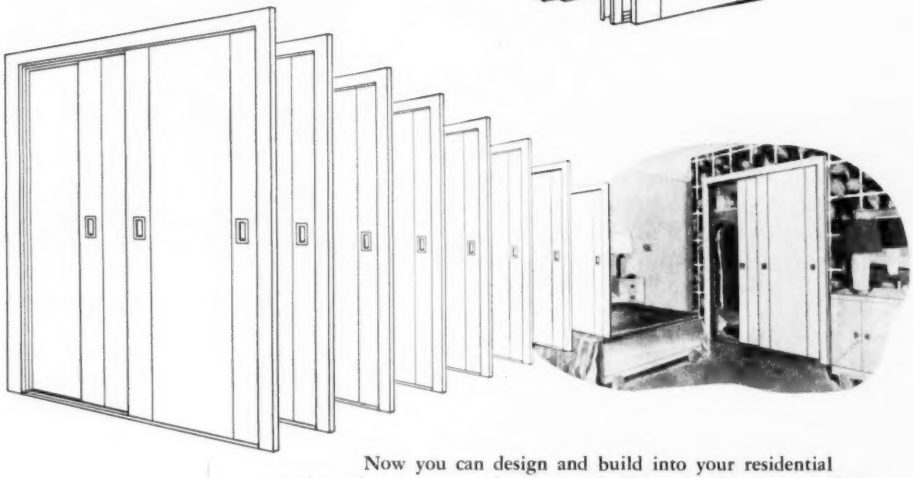
Until the Board issues its regulations it will not be known how many of the A.G.C. recommendations are accepted, or exactly how renegotiation will affect construction contracts.

There is reason to believe, however, that the Board is going about its work sincerely and conscientiously to the end that the act shall be administered in line with the intent of Congress and with the least possible disruption to business; that it is seeking to secure experienced, competent and fair-minded men; and that risk and efficiency will be recognized.

IMMEDIATE DELIVERY!

Truscon Residential Interior Steel Doors





Now you can design and build into your residential projects these newest and smartest of all interior doors . . . and get prompt delivery from warehouse stocks to coincide with your building schedule!

Greatly increased production facilities enable Truscon to set larger manufacturing schedules for these strong, beautiful swing and slide steel doors. They offer these exceptional advantages: STABLE DIMENSIONS. Won't ever warp, twist, shrink or swell. QUICK INSTALLATION. No fitting, cutting or planing at any time. EVERYTHING FURNISHED. All hardware, hinges, locksets and frames supplied with each door. LOW COST. Compete very favorably with doors of other materials when all factors are considered.

See SWEET'S for complete details on the entire line of Truscon Residential Steel Doors (Swing and Slide Types) for every purpose; and write for detailed literature on all other Truscon Steel Building Products. Truscon® Steel Company, 1100 Albert Street, Youngstown 1, Ohio. Subsidiary of Republic Steel Corporation.

TRUSCON MARK OF MERIT PRODUCTS

See us at the
National Home Builders' Show
Stevens Hotel, Chicago
January 20-24
Booth 5-6-7

TRUSCON a name you can **build** on

1951 Construction $39 Billion; $37 Billion Indicated for 1952

- $30 Billion of Last Year's Volume Was New Work
- First Six Months of '52 to Be Industry's Toughest
- Structural Steel to Ease, but Copper to Be Tight

» AN ALL-TIME record total construction volume of approximately $39 billion, representing 12 per cent of the nation's gross national product, was put in place in the United States during 1951, The Associated General Contractors of America announced last month.

At the same time, the association, which represents more than 6,100 leading general contracting firms of all types throughout the nation and Alaska, indicated that a total of up to $37 billion in construction is possible during 1952.

This figure is considered possible of attainment within the framework of the current mobilization program, based on the assumption that there will be a continued high level of materials production with negligible work stoppages, and a general easing of the structural steel supply in the last half of the year.

However, H. E. Foreman, A.G.C. managing director, pointed out that 1952 will be a year of "spotty" construction activity, with peak levels of work in some areas and severe drops in others, depending on the types of construction, the distribution of materials, and the administration of construction controls.

He also pointed out that it is important for public and private awarding agencies to keep their planning programs alive for those projects not now permitted in order to prevent a serious lag in commencing their construction once they are permitted to go ahead. He urged that mobilization officials forecast, when possible, the time when materials will become available so that additional types of construction can be undertaken.

1 Dollar in 8 for Construction

The 1951 volume is the highest yet performed in any year both in physical terms and dollarwise, topping any single manufacturing industry's output and exceeding the record 1951 gross income of $37.5 billion estimated for agriculture, the nation's largest industry.

Of the $39 billion total estimated for 1951, almost $30 billion was new construction, and the remainder general maintenance and repairs. About $28 billion of the 1952 goal would be new construction.

"The fact that nearly one dollar out of every eight created in end products and services in the United States this year was a construction dollar is indicative of the dynamic role occupied by the construction industry in vitalizing the mobilization program, while at the same time meeting the tremendous demand for essential civilian facilities," Mr. Foreman noted.

"While 1951 volume surpasses any previous year in terms of both dollars and physical construction, it is obvious that the accomplishment of a substantially higher total under the increasing pressures for many civilian projects was held back principally by the lack of industrial capacity to produce enough of the critical materials to meet both the mounting defense program requirements and essential civilian needs."

New Records Set in 1951

New peaks were registered in 1951 in the construction of private industrial, school, hospital, religious, pipeline, electric light and power, and State and local sewage disposal and water supply facilities.

Although not reaching previous heights, the construction of military, naval and atomic energy facilities increased by about 400% from 1950.

Declines from the 1950 levels were noted in residential, commercial, highway, and conservation and development construction.

1951 saw a gradually diminishing supply of critical construction materials for civilian projects as they were siphoned off by growing defense requirements and foreign programs. Government restrictions and allotments under the controlled materials plan cut back many civilian projects during the last half of the year, projecting some into 1952 and possibly farther into the future. Structural steel appeared to be the principal limiting factor for construction in 1951.

While private new construction paralleled the record 1950 level of almost $21 billion, declines in several categories were bolstered only by an unprecedented increase in industrial expansion. Publicly financed new construction, on the other hand, paced by military, naval and atomic energy projects, surged ahead of 1950 by $2 billion to more than $9 billion—a total surpassed only in the peak war year 1942.

On the basis of mobilization program plans calling for bigger bites from the materials normally used for civilian products, the sharpest difficulties for types of construction other than those supporting defense should be felt during the first half of 1952. As a result, public construction is expected to expand by another 15% while privately-financed construction declines somewhat.

However, another peak year of fabricated structural steel production anticipated by that industry in 1952 should ease the supply of this presently critical material in the latter half of the year to the extent that an upswing in building construction will be limited principally by the shortage of copper.

1952 Outlook by Types

Military, naval and atomic energy construction—Expected to double next year to more than $4 billion, the highest total since the war year 1943.

Private industrial—Now in full swing under the impetus of the defense program, should continue slightly upwards from its 1951 total of $2 billion to another all-time peak.

Public utilities—Expected by mobilization officials to drop slightly from the $4.6 billion 1951 total. However, within this group, increases are expected in electric light and power construction, and pipelines should remain almost level at slightly over $1 billion.

Decreases are expected by mobilization officials of more than 50% from the 1951 levels of $1.3 billion for commercial construction and $430 million for religious construction. Decreases of from 15 to 20% are also slated under present control policies from this year's totals of almost $1 billion for hospitals, $11.4 billion for housing, $1.8 billion for schools, $2.2 billion for highways, $865 million for reclamation

Industrial Expansion Still Booms Along

- Ohio, Texas and Pennsylvania Firms Propose High Investments

» INDUSTRIAL EXPANSION with tax benefits, getting high priority on the defense program, is fast advancing to the $10.5 billion mark. Certificates of necessity for almost that amount had been issued, as of Dec. 10, to approve 4,732 projects throughout the U. S.

More of the approved applications (421) went to Ohio than any other state and will allow $727 million in construction and new equipment there. Pennsylvania firms received fewer certificates—405—but the proposed investment there is almost $1.3 billion. Likewise, Texas, receiving only 182 certificates, has proposed expansion worth almost $999 million.

Other high states were Michigan, with 293 projects totaling about $654 million, and California, with 375 projects aggregating $366 million.

A regional analysis of the approved tax amortization applications shows the East North Central States leading the country in number of certificates and dollar value of proposed investments. Those states—Ohio, Illinois, Indiana, Michigan and Wisconsin—received 1,193 certificates for projects totaling $2 billion.

Industry-wise, most of the quick-amortization approvals are going to producers and fabricators of basic materials. The Defense Production Administration has announced that almost 65%, as of October, had gone to that group. The agency is still giving top priority to applications proposing expanded production facilities for machine tools, ores, pig iron, sulfur, military products, basic aluminum, nitrogen, aviation gasoline and steel scrap.

Among recent certificates issued are seven, totaling over $59 million, to the Caterpillar Tractor Co. for expansion of facilities to manufacture earth-moving equipment for military use.

Another large investment approved recently was for over $57 million by the Copper Range Co. of Michigan to expand production of copper ore.

Volume—*(Continued from page 21)*

and flood control, and $1.3 billion for farm construction.

However, building construction of various types and highway bridges and structures, after experiencing difficulties in the first six months, could recover with the anticipated easing of structural steel in latter part of '52.

Demand at All-Time High

Mr. Foreman, in commenting on the outlook, stated:

"At no single time has there been such a tremendous demand for all types of construction throughout the country as now faces the industry. The country needs and undoubtedly will have, barring all-out war, a large volume of construction for many years to come.

"The basic, underlying demand from a growing population for such needs as schools, hospitals, highways, churches, and community and commercial facilities unfortunately is reaching a peak at the time of another mobilization program. Many of these essential needs were accentuated by postponements during World War II.

"The construction industry has the capacity to perform all the most essential civilian construction and defense projects promptly and economically if the government refrains from policies that unduly hamper the industry's productive capacity.

"It is essential that realistic consideration be given by the government to the needs for both essential civilian and mobilization programs and plans for the earliest possible expansion of needed civilian construction."

Municipal Officials Hear of '52 Prospects

- Fleischmann Indicates Relief after Six-month Slowdown

» MUNICIPAL officials in convention last month in Washington, D. C., were given a candid picture of the prospects for public works construction during 1952.

Asking members of the American Municipal Association not to plan public works construction for the next six months, Manly Fleischmann, Defense Production Administrator, said, "It is unrealistic to believe that we can continue to build hospitals, schools and libraries at the present rate."

Some hearers, however, found encouragement in the fact that Mr. Fleischmann has moved up the date when relief from the steel shortage might be felt. Heretofore, DPA has talked of the public works cutback lasting into the fourth quarter.

"Adequate" Steel to Highways

He promised that both schools and highways would receive an "adequate" allocation of steel during the year. Materials to schools will allow almost as much building as in 1951, the peak year. In attempting to justify the retarding of some public works construction, Mr. Fleischmann stressed the immediate need for military installations and defense plants.

Hope for Public Works Later

"It is nothing short of a miracle," he asserted, "that we have been able to maintain the level of public works construction that we have thus far."

According to the Defense Production official, a relaxation of steel controls later this year will allow renewed construction of non-defense plants and public works after the temporary cutback.

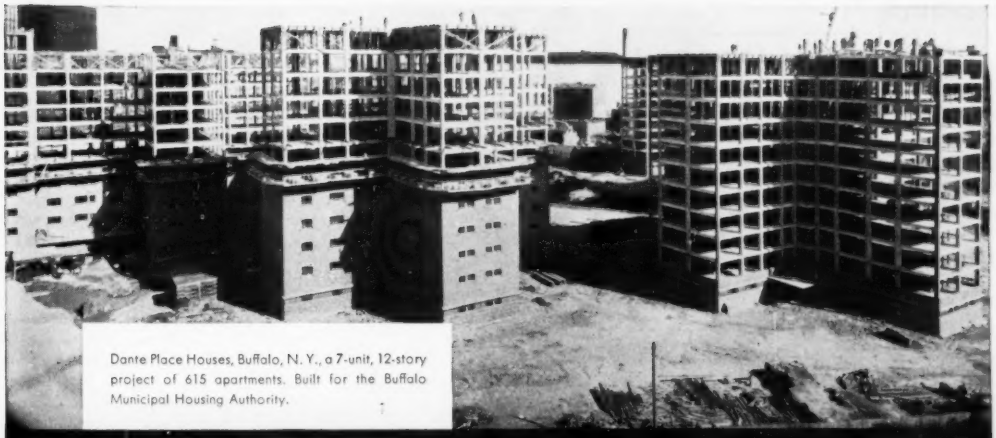
Highway Resolutions by A.M.A.

The American Municipal Association in convention last month claimed that urban areas were not receiving a fair share of the motor vehicle revenues in spite of the fact that "more than half of the vehicle mileage is on urban streets."

The association asked that highway user revenues be distributed on the basis of road use, which would bring more funds under local control. It quoted the extremes—Florida which collected motor user revenues of $70.5 million in 1949 and distributed none to cities and California which distributed $55.4 million to cities in the same year.

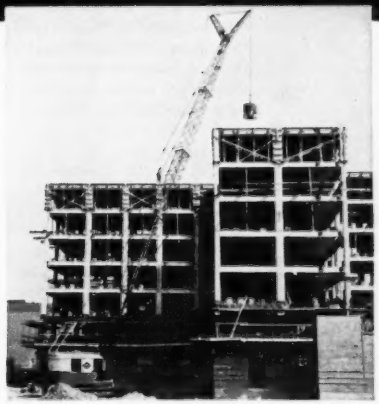
The municipal officials also asked that a far greater proportion of the highway users taxes collected be allocated to the federal-aid highway fund.

Another A.M.A. resolution urged that the U. S. provide federal-aid airport funds "sufficient to match the programs of the municipalities and insure the development of public airports essential to our national production and defense."



Dante Place Houses, Buffalo, N. Y., a 7-unit, 12-story project of 615 apartments. Built for the Buffalo Municipal Housing Authority.

ON SCHEDULE with LEHIGH EARLY STRENGTH CEMENT



• Crawler Crane lifts 1¾ yard batches to work level.

Contractors: **THE JOHN W. COWPER COMPANY,** Buffalo, N.Y.
CORBETTA CONSTRUCTION CO., INC., New York City.

Architects: **BACKUS, CRANE & LOVE,** Buffalo, N.Y.

Careful planning, closely maintained schedules, fast job progress! It's the formula for on-time, low-overhead construction followed by the contractors on the Dante Place Houses shown here.

On this large apartment project, plans called for completion of the concrete frames in time to close in before winter. This meant a pouring schedule of a slab a day for 77 working days. By skillful management and the use of Lehigh Early Strength Cement the schedule was met. Bettered, in fact, for weather conditions held up work on 9 of the scheduled pouring days. The 77 slabs were poured in only 68 working days. What's more, operations were so well organized that the finishers were off the job promptly at 4:30 P.M. each day.

Whatever your cement requirements, there are Lehigh Cements to meet them. Our Service Department will be glad to help you with your specific problems.

LEHIGH PORTLAND CEMENT COMPANY
ALLENTOWN, PA. • CHICAGO, ILL. • SPOKANE, WASH.

Lehigh CEMENTS

• A complete floor slab, 175 yards, was poured daily. Column and beam forms were stripped in 24 hours, slab forms in 48.

LEHIGH PORTLAND CEMENT • LEHIGH EARLY STRENGTH CEMENT • LEHIGH AIR-ENTRAINING CEMENT • LEHIGH MORTAR CEMENT

Urgency Now Is the Word for Metal Scrap

» THE NEED for scrap is urgent—and immediate.

Shortages of scrap, particularly this winter, can cause shutdowns in steel production.

Shutdowns in production of steel will mean less materials for construction projects and other defense and essential purposes than currently allocated.

The steel and scrap industries have launched campaigns pointing up the urgency of the situation.

This also was the message which Charles E. Wilson, Director of Defense Mobilization, and Manly Fleischmann, Defense Production Administrator, gave to the business press at a conference called in Washington last month.

While the greatest tonnages are needed of steel scrap, all other kinds of scrap metal are needed to continue production at full capacity. For most metals the need for scrap is greater than ever before because production is increasing.

The industry and mobilization officials are asking all business organizations, particularly during this winter, to search out all discarded machines, tools, and other pieces of metal which will not be used and sell them.

Scrap metal can be disposed of through local scrap committees, of which there are more than 2,000 in all parts of the country, or through scrap dealers located in most cities.

Ceiling prices, per pound or ton, have been established for the various classifications of scrap, with prices varying somewhat in different parts of the country.

It is being recommended that each business organization give to one person the authority to organize a search for all metal which can or will not be used and see that it is sold for scrap.

36 Million Tons Needed

The current annual rate of steel production is approximately 106 million tons. By the end of next year the rate will be increased to approximately 118 million tons.

To keep production flowing, the needs for iron and steel scrap from outside the steel industry were 36 million tons during 1951. During 1952 needs are estimated at 42 million tons.

Generally, one ton of scrap from outside the steel industry is needed for the production of 4 tons of steel. About 90% of the steel produced in the country is made in open-hearth furnaces. These furnaces use about a ton of home scrap which comes from the steel mills, about a ton of purchased scrap from outside the industry, and about 2 tons of pig iron for the production of 4 tons of new steel.

One of the reasons for using approximately half of scrap is that this has already had most of the impurities removed, so that there are substantial savings of iron ore, coke and limestone, and the time of production is shortened.

Because of the immediate need of scrap during the winter months, the present emphasis is on recovering scrap from various industries and farms.

Commandants of all naval districts have been instructed to assign officers to collect scrap from naval installations. Several hundred thousand tons have already been recovered from a few salvaged vessels. Government officials are seeking deliveries of agreed-upon tonnages of scrap from foreign countries.

The general contractor who sells to a scrap dealer all unusable metal around his yards or jobs does himself a favor by helping make it possible for steel production to be continued at capacity.

A smart accountant once said, "Everything is on the inevitable march to the junk heap and there are lots of things carefully stored away that would bring more for scrap than they're worth."

MACK TRUCKS

Keep Pace...

WITH YOUR STEPPED-UP PRODUCTION

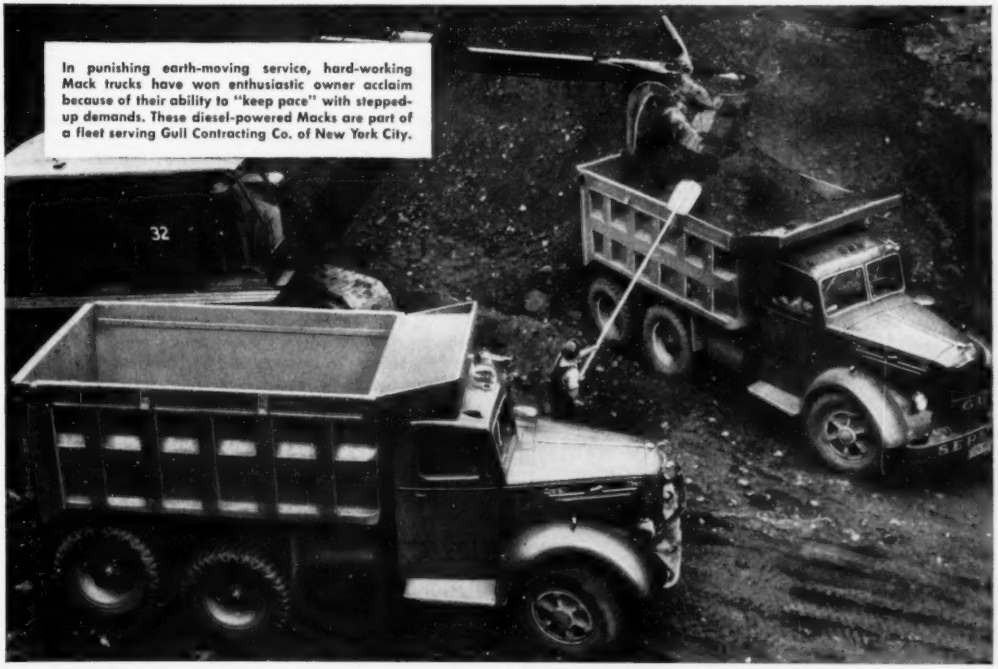
Today's conditions call for trucks that can keep pace with accelerated production schedules. More and more truck owners are realizing that trucks are really "Tools of production"... that intensified service makes doubly important the extra durability and sustained reliability they get from hard-working Macks.

Make sure *your* truck equipment measures up to the rigors of present-day demands. See your nearest Mack branch or distributor for the right truck for your particular job. Prove to your own satisfaction that "Built Like A Mack" means uninterrupted production... extra long life... more tonnage moved at lower cost for many years to come.

Mack TRUCKS

outlast them all

Mack Trucks, Empire State Building, New York 1, N. Y. Factory branches and distributors in all principal cities for service and parts. In Canada: Mack Trucks of Canada, Ltd.



In punishing earth-moving service, hard-working Mack trucks have won enthusiastic owner acclaim because of their ability to "keep pace" with stepped-up demands. These diesel-powered Macks are part of a fleet serving Gull Contracting Co. of New York City.

453rd Engineers Win Fame On Korean Bridge Assignments

There are many troops crossing and recrossing the rivers of Korea, but one outfit, especially, leaves steel and concrete evidence of its advances. The 453rd Engineer Construction Battalion, sponsored as a reserve unit by the Spokane Chapter, A.G.C., welds its signature against the Korean skyline with bridges—high ones.

They take a little longer with their crossings but the results are more permanent. Forty-one railroad bridges and 17 highway bridges over the rivers and gorges spell out the accomplishments of an outfit which is fast becoming legendary for such engineering feats.

Two of those projects were the Han River Railway Bridge between Yongdungp'o and Seoul and another railroad bridge across the Hantan River.

Both presented unusual problems and both were completed with the confidence and finesse of an outfit that learned its trade in the toughest training school—the civilian construction industry.

When the 453rd first saw the Han River railroad bridge assignment, however, it must have been subdued. Twisted steel beams hung limply from artillery-shattered masonry piers, their ends trailing beneath the surface of the muddy river. Three of the structure's 208-ft. truss spans were destroyed; one masonry pier had crumpled completely. The other seven trusses had been badly damaged by bombing, artillery shells and small-arms fire. Two of the 20 girder spans were gone; others were weakened.

Han River High Level Railway Bridge as the 453rd found it, showing the three demolished 206-ft. truss spans and destroyed masonry pier.

Five hundred tons of steel trusses were there to be cut up and moved to shore, first of all before construction could begin. The only way was blasting—a great deal of it under water—and only Korean divers were available. Getting instructions across to them became a major chore.

The trusses were cut into sections small enough to be handled by an improvised floating derrick consisting of a LeTourneau 20-ton wheeled crane mounted on a makeshift raft. A Wisconsin single cylinder engine supplied power to handle 18-ton pieces of steel.

In the meantime, repairs were begun on the remaining trusses. Welding jumbos were constructed on flat cars for four welding machines and four others were mounted on small hand cars to repair the damaged members.

Work got under way on the substructures out in the river. Pile piers containing 30 bearing piles and 10 batter piles were driven to 25 ft. with Koehring 304 cranes mounted on float rafts. One rig carried a 5,000-pound air hammer, the other a 3,000-pound drop hammer.

On shore, huge 48-in. built-up "I" beams, fabricated in 34-ft. 8-in. lengths in Japan, were joined together and made up in box girders. These beams, now 104 ft. long, were floated out to location on two Navy cube rafts.

To get the 24-ton sections from the water to the 40-ft. high piers was another problem. A floating frame derrick was constructed and mounted on a raft made up of nine M-2 pneumatic floats and steel treadway sections. A D-7 Caterpillar with Hyster Hoist provided the power. Up

Top left, erection of standard steel trestle on pier using Koehring 304 crane on M-2 pneumatic float raft. Behind it is another raft carrying the LeTourneau 20-ton wheeled crane.

Middle left, setting a 48-in. built up "I" beam for the first 104-ft. span by use of the floating "A" frame derrick and locomotive crane.

Bottom left, first train to cross the newly completed bridge.

The Hantan River Bridge: Here, a 208-ft. box girder assembled from four 48-in. built-up "I" beams is being launched over the first 104-ft. span.

on the repaired section of the bridge, a locomotive crane, borrowed from Transportation Corps, helped set the long beams. After the four beams in a span were set, the bracing was welded into place. All work was completed and the bridge officially opened for traffic by June 12, 1951.

The second large bridge project undertaken by the battalion was the reconstruction of a railroad bridge across another Korean river—the Hantan. Here, an original bridge of two truss spans 208 ft. long and six girder spans of 65 ft. each had collapsed. The two truss spans had been destroyed. A stroke of luck was welcomed just then.

Lt. Col. Jesse B. Barber, commanding officer reporting the operation, said, "Just upstream from the damaged bridge were piers constructed by the Japanese for use in double tracking the line. Since the first 416 ft. of this proposed bridge was to consist of girder spans rather than truss spans as in the original bridge, the first four piers had been spaced at 104 ft. centers. The spacing of the remaining piers was the same as in the damaged bridge; therefore, the girders in the original bridge could be moved to the upstream piers.

"The 104 ft. spans were spanned with four 48-in. "I" beams built into a box girder section. However, as it was impossible because of height and water conditions to lift the beams into place the launching method was used. The four 48-in. BU "I" beams were assembled into a continuous box girder 208 ft. long and rolled across two 104-ft. spans using four 50-ton launching rollers at the abutment and four at the first pier.

"The 208-ft. beam, weighing 210 tons, was then jacked down onto the piers. The jacking-down process was complicated by the lack of proper high-capacity jacks, but by the careful arrangement of jacks and close coordination the entire girder was jacked down without mishap.

"A second girder, identical to the first, was then assembled, rolled out over the first girder, and launched across the remaining two 104-ft. spans. A total deflection of 28 in. was measured at the end of the beam as it reached the first pier. The deflection of the end of the beam as it reached the second pier was in excess of 5 ft. below the abutment launching rollers."

Although both of these assignments were the reconstruction of railroad bridges, the 453rd has rehabilitated

Top picture: Launching of first 208-ft. girder completed and ready to be jacked down.

Middle: Second 208-ft. girder before jacking down. Girders removed from original bridge now in place over the remaining spans.

Bottom: The completed bridge carries the first train across.

114 mi. of railroad trackage, constructed 7 mi. of new railroad and built a 300-man camp with semi-permanent type buildings.

Seabees Celebrate Birthday

Ten years ago, on December 28, 1941, thousands of civilian construction men were working desperately in the holocaust of the South Pacific to repair the damage that almost daily enemy air-raids were wreaking on American naval installations there. Under the constant threat of Japanese strafing and artillery attacks, the bulldozer operators, the riggers, the engineers and the carpenters were doggedly building the bases that later became stepping stones to Tokyo.

They were not allowed to defend themselves. When captured they could not claim the considerations given to military prisoners of war. The Navy wanted men who could defend what they built, so three weeks after the Pearl Harbor attack the Naval Construction Battalions were formed—their nickname, the "Seabees," the "Can-Do" corps.

The civilian workers, caught off-guard and unarmed on Wake and Midway, went back to the islands with sidearms on their belts. Most of them were older men, many with families. Few were actually subject to the draft, but 100,000 of them volunteered during the first few months of the war.

Their massed experience with tools and equipment was the American weapon unmatched anywhere by the enemy. What they accomplished in their first war with their powerful machines is worthy of note on their tenth anniversary as official members of the U. S. Navy.

A quarter of a million strong, they built $8 billion worth of naval facilities in this country and abroad—much of it under fire. Eighty air stations (38 of them at the cost of $10 million each) and numerous satellite fields, $400 million worth of floating dry docks, fuel reservoirs, training bases and hospitals were some of the projects constructed hastily, but well, by the Seabees.

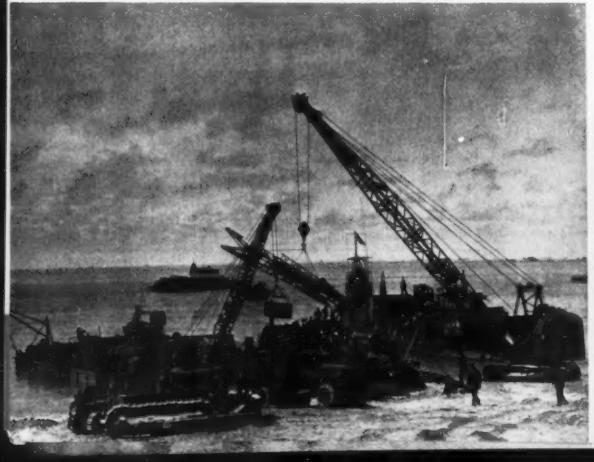
The Navy adopted the battalions permanently in 1946 and set up a reserve system. Some of the reserve units developed since then are on active duty now—this time in Korea. There, in the traditions of World War II, they are building bases and docks with typical Seabee dispatch.

After disposing of the Japs on Attu, Seabees lost no time in setting up a base there. Above, a crane lifts lumber off an LCT to the shores of the Aleutian island. The curved sections were used in building Pacific huts.

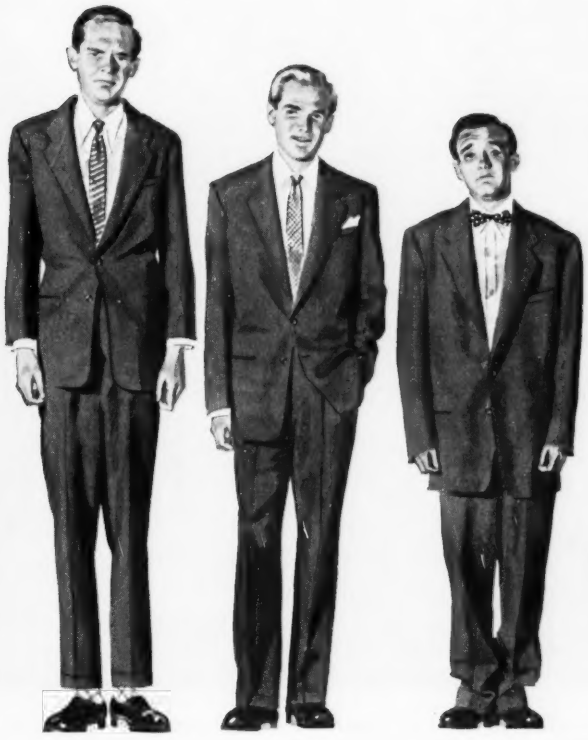
They are still a corps of skilled workmen operating under hazardous conditions. In the ten years since 1941, their forces have kept trim—the regulars by expanding Navy construction overseas, the reservists by developing their skills under civilian contractors.

Due credit is given the construction industry for the valuable on-the-job training the present Seabees got in civilian working clothes. Except for basic military training and discipline, the Navy has had to teach these men little. As Admiral Jelley has said, "They have taught the Navy a lot more about construction than we have taught them."

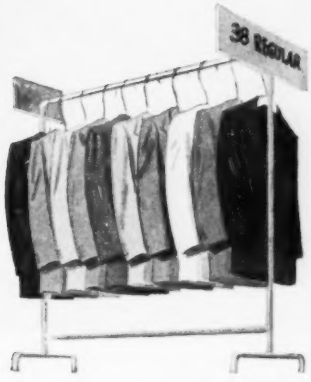
Their first ten years have proved the Seabees ingenious and brave. Their success at construction in the midst of destruction has won them a permanent place beside the other fighting forces.



Fighting a war against winter cold on Uncle Sam's Northwest sea frontier, the Seabees built a number of airfields in Alaska. Right, tractors and graders grind out patterns in the stubborn soil of Adak. The first job equipment was often put to upon being landed on some remote island was that of unloading more machinery and building materials. Left, an LCT is lightened at Red Beach, Falalop Island in the Carolines.



if all suits were 38 regular



Impossible situation? No, it's just the problem cement users face when using air entrained concrete.

All air entraining cements are standardized by Federal and A.S.T.M. specifications. For many jobs these cements are adequate. They produce a concrete with all the excellent qualities resulting from properly entrained air.

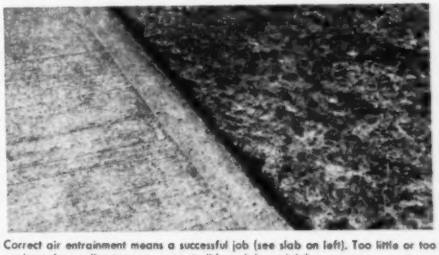
But air entraining cements lack the versatility to be a "cure-all." The local materials used, and the requirements of the locality and the job, are variables that may result in concrete being unsatisfactory when made with standardized air entraining cement.

To avoid a situation like this we recommend the following procedure: Use regular portland cement and add any readily available air entraining agent in the quantity necessary to meet the requirements of your particular job. It's like having your suit tailor made, and it's simple to do.

Always be *sure* an air entraining cement will do the job. If so, remember you can't buy a better one than Marquette Air Entraining Cement.

★ ★ ★

If you have any problems or questions on the use and mixing of air entrained concrete, the Marquette Service Engineer will be glad to help and advise you—contact any Marquette office.



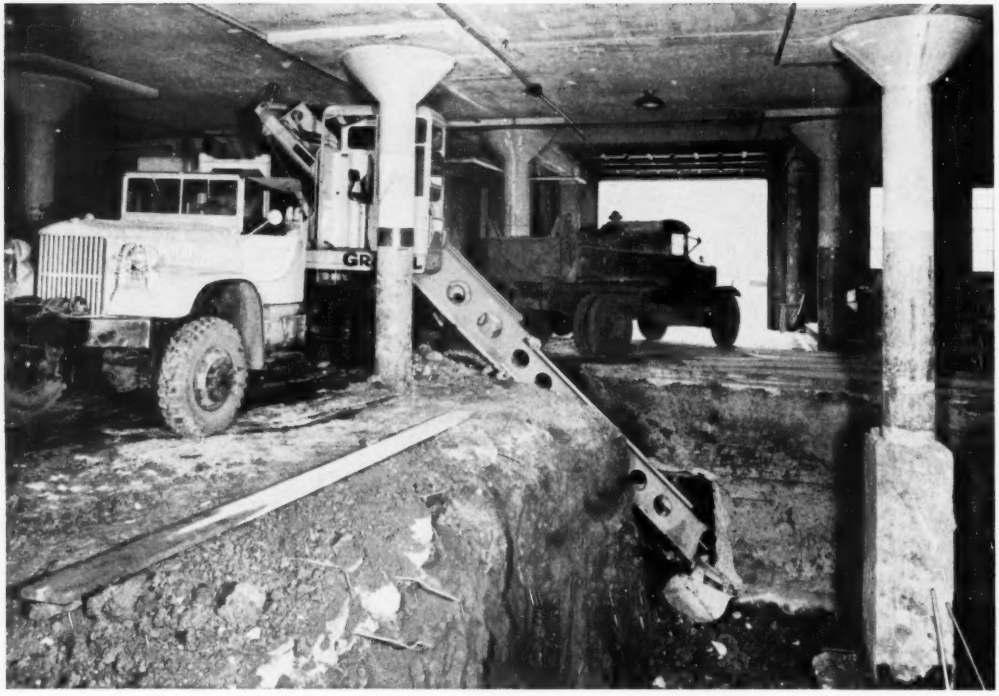
Correct air entrainment means a successful job (see slab on left). Too little or too much can be as disastrous as none at all (see slab on right).

Marquette Cements

Marquette Cement Manufacturing Company

SALES OFFICES: Chicago • St. Louis • Memphis • Jackson, Miss. • **PLANTS:** Oglesby, Ill.
Des Moines, Ia. • Cape Girardeau, Mo. • Nashville, Tenn. • Cowan, Tenn. • Brandon, Miss.

Portland • High Early Strength • Air Entraining • Masonry



The Gradall works easily in many a tight spot!

WHEN YOUR CONSTRUCTION WORK must be done in "tight" places such as this, there's one machine you can count on to do the job quickly—the Gradall.

Its "arm-action" boom actually reaches out, twists and turns, to do its work in areas very little larger than the machine itself. And the Gradall's powerful hydraulic "down pressure" and exacting tool control make it easy to dig excavations to blueprint specifications—with clean-cut vertical or sloping sides, precise square corners, and perfectly graded floors. It practically eliminates costly hand labor.

But take your own construction problems to your nearest Gradall Distributor. He'll be glad to show you how this versatile machine can cut costs for you, too.

Gradall—the multi-purpose construction machine *with controlled down pressure*

Gradall® DIVISION OF WARNER & SWASEY Cleveland

Gradall Distributors in over 60 principal cities in the United States and Canada

Renegotiation Board Hears Recommendations from A.G.C.

- Urge Exemption of Competitively-Bid Contracts
- Cases to Be Actually Processed by Regional Boards

» THE EXEMPTION from renegotiation of construction contracts awarded as the result of competitive bidding after public advertisement, and certain others, was recommended to the Renegotiation Board last month by The Associated General Contractors of America.

The board is drafting regulations which will put into operation the Renegotiation Act of 1951. The act was passed last March but it was not until late fall that members of the board were appointed. While the act establishes the basic policies of renegotiation, the Congress placed upon the board the responsibility for writing the regulations which put the act into effect.

Navy Specifications Discussed —Page 56

The A.G.C. asked for, and was given on December 19, the opportunity to present and explain its recommendations to members and staff of the board and to present information on the industry. The presentation was made by Managing Director H. E. Foreman, and John C. Hayes, legal counsel.

The five-man board in Washington will announce its regulations when they are drafted. The actual renegotiation will be handled by regional boards to be established as soon as possible after the first of the year in New York, Washington, Chicago and Los Angeles.

Each regional office will consist of a five man board and staff. The Army, Navy, Air Force and General Services Administration each will appoint one board member. The chairman will be appointed by the Renegotiation Board.

The decision to conduct renegotiation proceedings through its own regional offices rather than to delegate authority to other government agencies, was reached "after careful deliberation," Chairman John T. Koehler stated.

A.G.C. Recommendations

The A.G.C. recommended that the board make exemptions for certain kinds of construction contracts as provided in the act in the Mandatory Exemptions in Section 106 (a) (6), and in the Permissive Exemptions in Sections 106 (d) (1) and (3). In a letter summarizing the association's position as stated at the conference, Mr. Foreman wrote:

"These recommendations are made in the belief that they will serve the best interests of government contracting agencies and the Renegotiation Board. We do not believe that our recommendations will lead to general contractors' making excessive profits, because in all cases the public interest will be safeguarded without renegotiation. We believe that the exemption from renegotiation of the recommended types of construction contracts will serve to eliminate one of the uncertainties of performing construction work for the government, and thereby eliminate one of the contingencies against which a contractor will seek to protect himself."

Non-Defense Work

Section 106 (a) (6) provides that the act shall not apply to "any contract which the board determines does not have a direct and immediate connection with the national defense." The A.G.C. stated:

"Each year, as part of its peacetime activities, agencies of the federal government contract for from $1 to $2 billion worth of public works construction. Except in rare instances, contracts are awarded as a result of competitive bidding after public advertisement.

"Our first recommendation is that the board make exemption so far as possible by classes of construction contracts of those types of work regularly and usually carried on by government departments.

"Our second recommendation is that the board establish a policy of predetermining whether the contract shall be subject to renegotiation or fall in a category outside the jurisdiction of the board in those areas where a project might on some occasions be directly and immediately connected with the national defense, while a similar project on other occasions might not be so related.

"We believe that there is ample legislative history to establish that it was the Congressional intent to give the board authority to exempt contracts for such normal, peacetime projects as public buildings, highways, flood control, river and harbor, reclamation and other public projects.

"We recommend that the board establish the policy of predetermining, before the contract is offered for bids, whether or not projects are subject to renegotiation in the twilight zone which cannot be covered by regulations, so that contractors will know at the time of preparing their estimates if they are to be subject to the uncertainties of renegotiation."

Off-Shore Work

Section 106 (d) (1) authorizes the board, in its discretion, to exempt "any contract or subcontract to be performed outside of the territorial limits of the continental United States or in Alaska." The A.G.C. stated:

"The majority of construction projects which would come under this category are executed under cost-plus-a-fixed-fee contracts in which the fee is carefully determined by the government agency. During World War II it generally happened that the projects cost more than contemplated so that the fee was for a smaller percentage than planned. The practice previously was to exempt this type of contract."

Advertised Competitive Bidding

Section 106 (d) (3) authorizes the board, in its discretion, to exempt "any contract or subcontract or performance thereunder during a specified period or periods if, in the opinion of the board, the provisions of the contract are otherwise adequate to prevent excessive profits." The A.G.C. stated:

"The association recommends that construction contracts awarded as the result of competitive bidding after public advertisement for projects which do have an immediate and direct connection with national defense be exempt from renegotiation.

"Competition between general contractors for defense projects will be ample to assure the government of the lowest possible price. Where plans and specifications are sufficiently complete for competitive bidding after public advertising, the interest of the government will be fully protected."

ON ASPHALT and GRANULAR SOILS
This NEW VIBRATORY COMPACTOR
IS A
Sensational PERFORMER!

In spite of its small size, the Jackson Vibratory Compactor delivers up to 4500 1¾-ton blows per minute. It propels itself and will firmly compact 900 to 1200 sq. ft. per hour — closely approaching theoretical density of the asphaltic mix being used, or 95% of maximum density in the case of granular soils compaction. It operates on 3-phase, 110V. 60 cycle AC from a *Jackson Power Plant mounted on a trailer which also has means for quickly picking up or lowering the Compactor. The ease and speed with which it may be moved from one location to another, together with the rapid, thorough job it does, makes it far superior to more cumbersome and more costly equipment on many types of operation. It is ideal for highway patching and widening, walks and drives, water-bound macadam bases, railway platforms and crossings; for compaction of sub-bases for concrete floors, in trenches, near abutments and many other places. Let us furnish you with complete details. It's a great time and money saver.

*Power Plant also generates single phase 110 V. 60 Cycle AC and may be used to operate other power tools and lights (Capacity: 2.5 KVA)

JACKSON VIBRATORS Inc.
LUDINGTON, MICHIGAN

Option

The A.G.C. also pointed out that during the previous renegotiation experience the procedure was followed of allowing the contractor the option of deciding the basis on which his work was to be renegotiated, and stated:

"Because of the many complexities which face the general contractor, we recommend that the same procedure be followed this time. This permits the contractor the option of being renegotiated on an over-all basis for all of his renegotiable contracts, on a completed contract basis, or to use figures other than income tax returns when losses are carried forward or back."

Joint Ventures

The association recommended that the board adopt a policy of giving consideration to the other business subject to renegotiation of the partners to a joint venture when the contract of the joint venture is renegotiated. A.G.C. stated: "It is equitable to offset the losses which any of the partners might have on other projects subject to renegotiation against the profits which might be made by the joint venture."

Mr. Foreman presented testimony on behalf of the A.G.C. before both the House and Senate committees when the legislation was being drafted. Congress, in passing the Renegotiation Act of 1951, confined itself to establishing general principles, and left to the Renegotiation Board the detailed task of drafting the regulations which carry out the act.

You'll be *Convinced in 3 minutes!

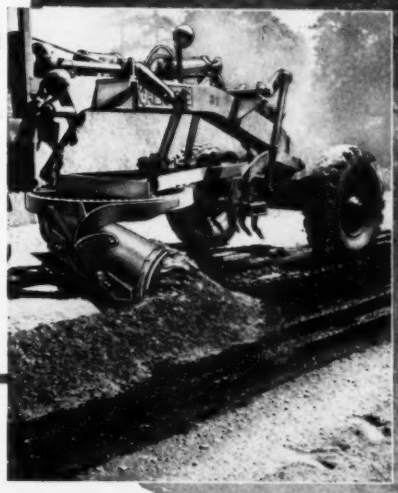
PROVE IT TO YOURSELF !

When you start a GALION Motor Grader thru its paces, you will *quickly* sense advantages over competitive Motor Graders. Because—

- **SIMPLIFIED HYDRAULIC CONTROLS** give you simplified operation.
- **MANUAL STEERING WITH HYDRAULIC BOOSTER** gives you ease of operation — minimum muscle work.
- **LARGE FRONT TIRES** give you extra clearance — less slippage — better flotation.
- **GEAR TYPE TANDEM DRIVE** gives you a *positive* four wheel drive.

*You'll be *convinced* that GALION Graders give you most for your money on any grading job.

Contact the nearest Galion Distributor for a demonstration—then drive it yourself to prove it to yourself.



ESTABLISHED GALION 1907

MOTOR GRADERS · ROLLERS

THE GALION IRON WORKS & MFG. CO., General and Export Offices, Galion, Ohio, U.S.A.

Cable address: GALIONIRON, Galion, Ohio

A GOOD CRANE IS GOOD ON EVERY CRANE JOB...

PROBABLY no other general class of work calls for more versatility than crane work.

Your *Northwest Crane* is a recognized leader *in all classes of crane work.* It is smooth and fast as a clam; there is a choice of boom hoist equipment to meet any condition; "Feather-Touch" Clutch Control gives ease of operation with the "feel of the load"; engine throttle control is available for operations requiring variable speeds; Northwest crawler design is trouble-free; simplicity of design means ease of upkeep and reduced down time; and, Northwests are convertible to Dragline, Shovel or Pullshovel.

Your Northwest is a proved crane unit—one out of every three Northwests sold is a repeat order to a responsible customer—a guarantee of performance that no other testimonial can equal.

Plan ahead for a Northwest and you'll have a good crane for every crane job.

NORTHWEST ENGINEERING CO., 1502-8 Field Building, 135 South LaSalle Street, Chicago 3, Illinois

WEIGH ALL THE ADVANTAGES

NORTHWEST

CRAWLER and TRUCK MOUNTED SHOVELS • CRANES • DRAGLINES • PULLSHOVELS

First Prestressed Building Slab Poured

• Combined With Youtz-Slick Erection Method Cuts Steel 62%

» NOW THAT the Youtz-Slick method of construction is meeting wide-spread acceptance, the originators are developing another innovation to get what they believe will be increased strength and economy.

Alert to other successes with prestressed concrete, the Institute of Inventive Research, San Antonio, Tex., has poured and prestressed a laboratory roof, on the ground, and raised it by the Y-S method.

It is the first prestressed slab to be used in a building in the United States. If the two developments can be tied together successfully, the experimental firm is confident the results will be a major contribution to the construction industry.

62% Steel Saving Reported

Not the least of the benefits, especially today, is the reported saving in steel—62% in the case of this first slab.

Aided by a sister foundation, the Southwest Research Institute, I.I.R. poured the 6-in.-thick roof, 88 ft. by 38 ft., late in November. The institute's engineers have been concurrently "testing to destruction" a scale model of the slab, one-sixth its size. The 1-in.-thick model has been bearing a load of 212 pounds per sq. ft., much more than twice the design load, with no abnormally large deflections. When the model was burdened to the design load, the scale slab was perfectly flat with no measurable deflections.

The principle of tensioned steel reinforcing in concrete is widely recognized, Fred Koebel, structural engineer supervising the project, points out. Concrete has great compressive strength but little tensile strength, so ordinarily a flat slab needs large amounts of steel reinforcing with corresponding increases in the mass of concrete to carry the steel. One-way stressing of concrete beams for use in bridges and similar projects are coming into wider use at great savings in materials and increase in strength. In applying stress to his slab, Koebel tensioned the steel reinforcing along both axes in a cross-hatch pattern. On the long axis the steel wires were stretched from one end, where they were anchored mechanically, to the other end where they grasped by small jacks to apply the stress.

Along the shorter axis a breach was left in the concrete, and the stress was applied by pushing one side away from the other and then filling in the breach to hold the tension.

The constant squeeze of this two-way tension will add enough strength to the slab to eliminate 40% of the concrete and more than 50% of the steel in a roof or floor slab of any given size, Koebel asserted. His own roof slab built from the scale model, which eliminated 62% of the usual amount of steel, shows his estimate to be conservative.

The roof slab, poured by Contractor William R. Rainey, was of readymix concrete with a w/c ratio of .47 and a maximum permissible slump of 3½ in. Strength of the concrete was placed at 5000 psi at 28 days and stressing was started 10 days after pouring. The prestressed, post-tensioned concrete of Koebel's scale model had a working stress of 110,000 psi.

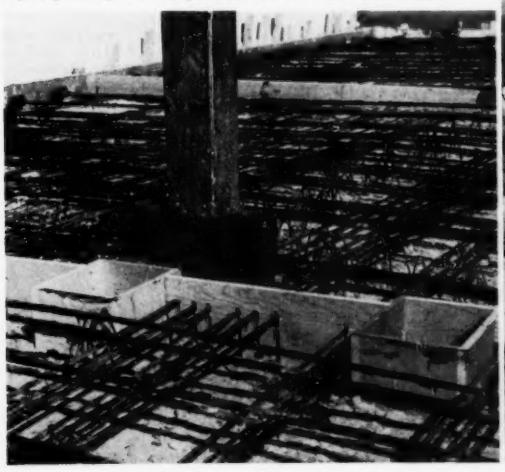
Slab Will Be Waterproof

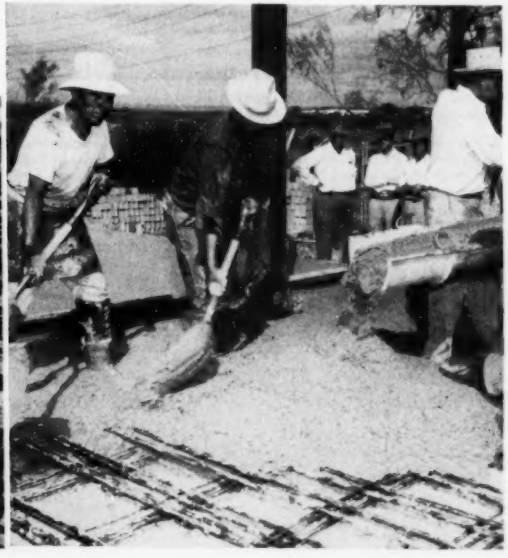
Koebel pointed out that the increased shear strength of the prestressed concrete gripping the collars of support posts disposes of the need for heavily reinforced shearheads to hold the slab, effecting a considerable saving. There is further saving in the fact that the slab, since it is always under compression, is completely waterproof and requires no waterproofing treatment.

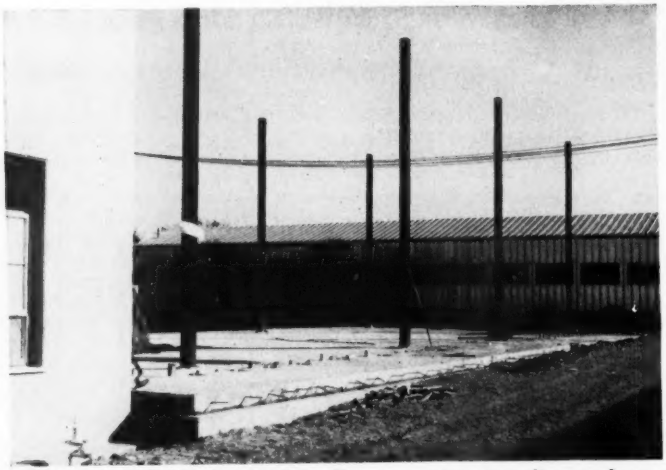
William J. Lance, technical director of the Y-S method for the institute, is quietly confident that the prestressed slab will be a great boon to the construction industry.

"But," he pointed out, "full realiza-

Below, the forms and asphalt-coated ¼-in. wires, strung for two-way stressing. Blocked-out squares and board line are for jacking sides apart to tension the steel after pouring. Right, pouring the first prestressed building slab used in U.S.



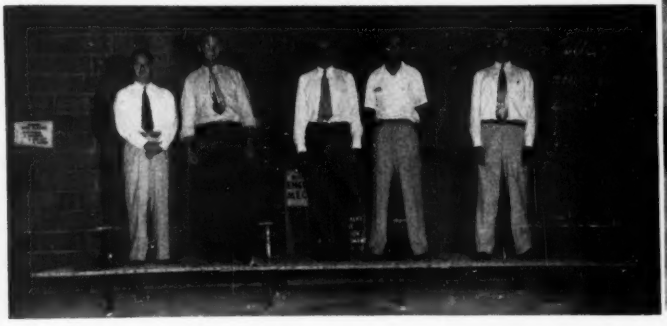




Laboratory roof slab after pouring. Note stress wires protruding at edges.

Above, Koebel hoists scale model prestressed slab off the floor in simulated Youtz-Slick fashion by screwing it up on threaded bolts.

Below, eight hundred pounds in the form of the institute's leading figures climbed aboard the 1-in. thick scale model with no qualms. Left to right are James McGoodwin, director; Fred Koebel, supervising engineer, Tom Slick, oilman whose endowment fund founded the Southwest Research Institute; Robinson Brown, supervisor of engineering design; and C. D. Pengelley, chairman of engineering mechanics.



tion of the values of such a slab is still a long way off. There will have to be lots of testing followed by technical papers and the other various processes to get the specifications into the A.C.I. code. There is no code now, of course, for the prestressed slab."

Encounter Code Difficulties

Lance also pointed out that in constructing the new laboratory building with the specifications of the code it was not possible to increase span lengths without adding enough concrete to nullify the savings. By the time the prestressed slab is worked into the code, according to Lance, the prestressed lift slab method will be not only practicable but highly desirable for residential structures. Architects already appreciate the freedom of design afforded by the Y-S method because the walls need not bear weight. Full experimentation and incorporation into the code will extend this freedom even further with the lighter prestressed slab, it is hoped.

Institute Lauds Method

Contractors, engineers and architects, some of whom have reported savings of from 10% to 40% by the Youtz-Slick method, will welcome the prestressed slab with its higher safety factor against failure, the possibility of greater span lengths and lower quantities of material, the institute believes. Savings have been made possible, proponents report, in laying the steel, pouring, and in electrical and plumbing work because of the amount that can be done on the ground.

Below, Fred Koebel, structural engineer, inspects miniature jacks used to stress scale model slab longitudinally. Lateral stress wires protrude at Koebel's thumb and forefinger.

ENGINEERED TYING DEVICES, ANCHORAGES and ACCESSORIES for CONCRETE CONSTRUCTION

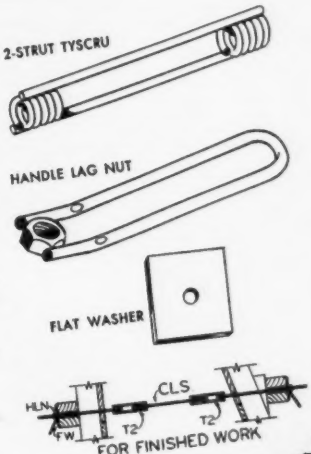
WANT TO S-T-R-E-T-C-H YOUR TYSCRU SYSTEM? THIS DOES IT!

RICHMOND CONTINUOUS THREADED LAG STUD

5 FEET

The Continuous Threaded Lag Stud—with the Tyscru and other parts shown above —greatly expands the usefulness and functions of the Richmond Tyscru System. Tough, coarse-threaded, this Lag Stud comes in 5 ft. lengths and can be cut to measure right on the job. For finished work Lag Stud is threaded into two Tyscrus at either end. For unfinished work one Tyscru can be used and Lag Stud can project through the back form secured by Handle Lag Nut and Washer.

In either case you have a 100% adjustable form-tying method!



THIS JOB SMELLS—THE BOSS GOT FAST-TALKED INTO CUT-RATE JUNK AND SOME WISE GUY TRIED TO SAY IT WAS RICHMOND—BUT THE RECORD PROVES IT AIN'T.

THEY CALL YOU "SCREWY"—BUT HOW ABOUT THE GUY THAT BOUGHT THAT STUFF!

Get your "Screwy" or "TY" button—write to John Cushing at Richmond, 816 Liberty Ave., Brooklyn 8, N. Y.

RICHMOND KNOW-HOW—DEPENDABILITY—SERVICE—ESTIMATES & JOB PLANNING

Can your rear-dump

On relocation of U. S. 10 in the Coeur d'Alene Mountains near St. Regis, Montana, Roy L. Bair Co. is moving 600,000 yds. of granite and shale with 3 C Tournarockers. On typical 2400' cycles, their 3 "C's" are averaging 25 loads (a total of 252 pay yds.) hourly.

Here's how these advantages pay off

"Well pleased" at New Haven

Tournarocker's big 9½' x 12½' top opening speeds loading, reduces spillage for Frod Onuparik Construction Co. on their 70,000-yd. relocation of U. S. Highway 1 through New Haven, Connecticut. Working with a 1¾-yd. shovel, Onuparik's 2 "C's" deliver about 1200 pay yards of shot rock daily on a 2000' cycle . . . carry 10 pay yards (8 to 10 dipper-fulls) per load.

Boosts output at Mt. Carmel

Loaded with 15 yds. of clay, Tournarocker hauls 700' up 10% grades, 820' up 4% . . . strips 120 yards hourly for J. Robert Bazley, Inc. at their Mt. Carmel, Pa., mine. 4200' cycle is completed in 7.4 min. . . . smaller trucks take 7.9 min. for same trip. "We're particularly impressed with Tournarocker's clean dump and its safety when rear wheels are over bank," says Owner Bazley.

LeTOURNEAU LET EQUIPMENT

R. G. LeTOURNEAU, INC., Peoria, Illinois

HIGH-SPEED, RUBBER-TIRED EXCAVATING • HAULING • LIFTING EQUIPMENT

haulers compare with C TOURNAROCKERS ?

Turn around in a 13′ 9″ radius

When Tournarockers work a cramped rock job, there's no time wasted "backing all over the place" to load or dump. Because of its 2-wheel prime mover and positive-power electric steer, 18-ton Tournarocker turns in any footing within 13′ 9″ radius (less than half the rig's 29′ overall length), is ideal unit for work in restrictive quarters.

Eliminate tire breakage in rough going

Tournarocker load is carried by four 21.00 x 25 low-pressure tires. These big tires reduce rolling resistance of duals . . . are bigger, heavier, stronger than duals . . . better adapted to withstand load and haul shocks. They have no divided face to wedge in rock fragments that wear and tear. They roll easily over rocks that might concentrate entire load on one or the other of the lighter duals, and result in bruising or breaking the fabric.

Absorb punishment without costly repairs

Tournarocker's 3-ply, steel-grid bowl resists damage normally done when big-chunk rock is loaded. As a result, most welding and patching is eliminated. In addition, because Tournarockers have no frame, sub-frame, springs, spring hangers, drive shaft, front steering wheels or hydraulic system, many trouble spots are eliminated . . . spare part requirements reduced . . . maintenance costs kept down.

Work and turn on steep grades in safety

With positive power steer, and instant electric controls, and 4-wheel, multiple-disc air brakes (3763 sq. in. total braking surface, more than 4 times that of other haulers), loaded Tournarocker may be driven at high speeds down narrow, steep winding haul roads with complete safety.

Drive anywhere . . . dump safely over bank

Power-proportioning differential (which delivers up to 4 times the power to drive wheel on firmest footing) — plus the extra flotation and traction of giant tires — get rig through footing that stops conventional haulers. In addition, because it has power on front wheels, Tournarocker backs safely to edge of fill, dumps load clear over bank . . . eliminates most dozer clean-up.

Interchangeable for further profits

For other jobs, you can easily interchange the 186 h.p. C Tournarocker prime mover with 4 auxiliary hauled units . . . 14-yd. Carryall Scraper, 18-yd. bottom-dump hauler, flat-bed, and 15-ton crane. Other Tournarockers (9, 35 and 50-ton) may also be interchanged with similar trailing units, each costing about 25% of original unit price. Prime mover change takes only a few hours. This equipment travels via highway or cross-country to their assignments. Ask your LeTourneau dealer for full details.

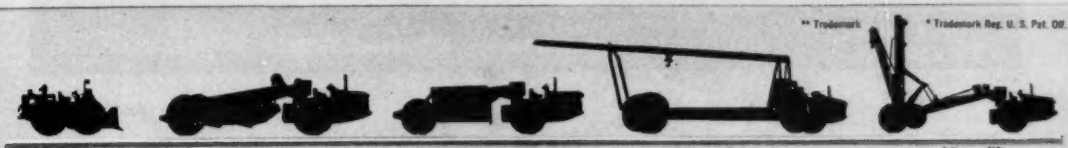
Carryall—Trademark Reg. U. S. Pat. Off.
Tournarocker—Trademark G156

25 loads daily on 3-mi. cycles at Newbury

Short 90° turns like this helped Frank W. Whitcomb speed production on a 245,000-yd. relocation of Rt. 103 near Newbury, N. H. Job records show the fast, mobile "C", hauling 1½ miles one-way through heavy traffic, delivered an average of 25 loads of high-void broken rock and common earth per 9-hour day. Loads averaged 10 pay yards in rock, 15 loose yards in earth.

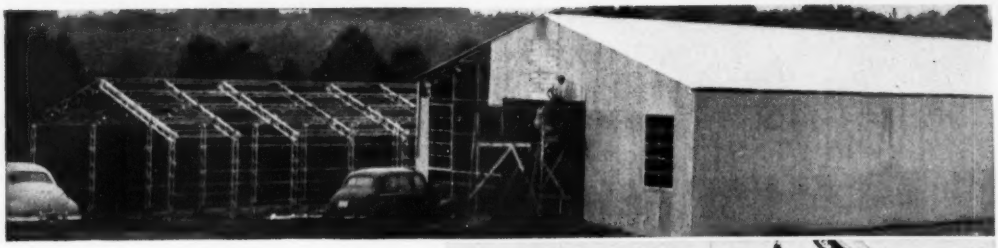
2 "C's" replace 15 dump trucks in Ontario:

On 10-mile re-location of Provincial Hwy. 17 near Sault Ste. Marie, Muskoka Construction Co., Ltd. found 2 C Tournarockers their most effective haulers for moving 400,000 yds. of rock, earth, and sand. They used the two in place of fifteen 2 to 4-ton dump trucks on typical 2-mile cycle. The 2 "C's" delivered 150 pay yards per hour . . . 3000 pay yards every 20-hour working day.



** Trademark * Trademark Reg. U. S. Pat. Off.

122 or 186 h.p. TOURNADOZER* | 14-yd., 18-ton TOURNAPULL* | 18-yd., bottom-dump TOURNAHOPPER** | 20-ton, flat-bed TOURNAHAULER** | 15-ton lift TOURNACRANE*



CONSTRUCTION'S MOST INTERESTING TREND TODAY

The application of Light Steel Framing members seems unlimited if the diversified uses we have engineered and fabricated to date are any criterion of 1952.

These nailable steel framing members work as well in the high pitched roof of a church as they do in the low and rambling plan of the modern elementary school building.

As each project is individually engineered to the load and dimensions of a particular need, we invite your contact on any specific project for cost analysis.

TO BUILD FIRE-SAFETY INTO SCHOOLS, APARTMENTS, HOSPITALS, STATE AND FEDERAL FACILITIES, ETC.

STANDARDIZED STEEL BUILDING PRODUCTS

MACOMBER • INCORPORATED

CANTON, OHIO

V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK

States Plan New Offices and Hospitals

• 1951 Legislatures Approve Multi-Million-Dollar Buildings

» WITH state governments generally confronted with the need for new or expanded office buildings, a survey reveals, an increasing number of them are considering plans to finance and build such facilities.

While the trend is just now impeded by materials shortages, reports from state capitals throughout the country indicate that a very sizable volume of building is needed.

Many state departments would like to build and amortize with the funds now going for rented office space. Some states have created building authorities to plan such projects.

N. Y. Reviews $80 Million Job

An $80 million project in Albany has been proposed by the New York State public works superintendent for a state office building campus. The cost would be amortized from rentals now going to private buildings.

While that is one of the most ambitious designs, other states with building hopes are considering the same means of footing the bill. Alabama is about ready to issue bonds for a new 8-story state office building in Montgomery. California has enacted a bill providing for the financing of a $9.5 million building in Sacramento for the State Department of Employment. Earlier the state awarded $5 million worth of contracts for construction of a Motor Vehicles Department headquarters. Presently under consideration is a plan to create an authority to finance additional state office building construction.

Southern States Plan Buildings

The legislature in South Carolina will hear of plans this year to enlarge the state house. Tennessee's lawmakers in 1951 authorized a $5 million bond issue to complete various buildings, including a new 10-story, $6 million state office building in Nashville. Another southern state, Georgia, last year initiated a State Office Building Authority empowered to issue revenue bonds up to $12 million to finance construction. The new agency has subsequently revealed plans for a new $7 million judiciary building and a $1.7 million agriculture building.

Finishing touches have just been put on a new $5 million state office building in Iowa.

Maine citizens rejected a proposed $3 million bond issue for construction of a new office building, but the legislature expects to tackle some other scheme to finance the needed construction. Michigan has a $5.6 million state office building under construction now and is preparing to spend $2.5 million to renovate another building.

New Jersey has activated a State Building Authority to plan construction of new motor vehicle inspection and police stations. Oregon has a new office building in Portland.

State governments are looking for funds to build new hospitals and other institutions, also. New or broadened authority to issue bonds for such construction was enacted in 1951 by legislatures of at least six states—Connecticut, Delaware, Georgia, Maryland, Michigan and Tennessee. Meanwhile, a court ruling recently cleared the way for a large-scale, bond-financed institutional building program in the State of Washington.

Connecticut's legislature authorized a bond issuance of $26 million for hospitals and other institutions. Delaware and Maryland are expecting to gain $7.5 million and $19 million, respectively, from bonds for like programs.

A $65 million bond issue to finance mental and tuberculosis hospital construction in Michigan is yielding support to projects there. As of last October, Governor Dever of Massachusetts was still pressing for $37.5 million to build hospitals, state schools and other facilities.

In New Mexico, however, Governor Mechem vetoed a proposed $3.5 million bond issue for state buildings.

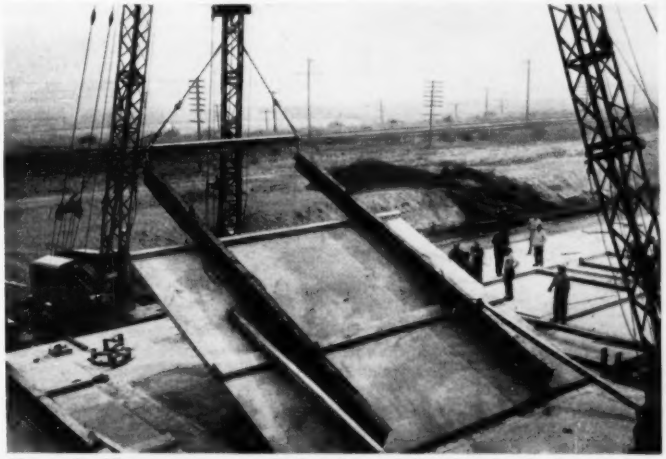
Bond issues for $40 million for schools and $20 million for various state institutions have been approved by the electorate in Washington and their validity upheld by the state supreme court.

New Methods Work on Large Tilt-Up Job

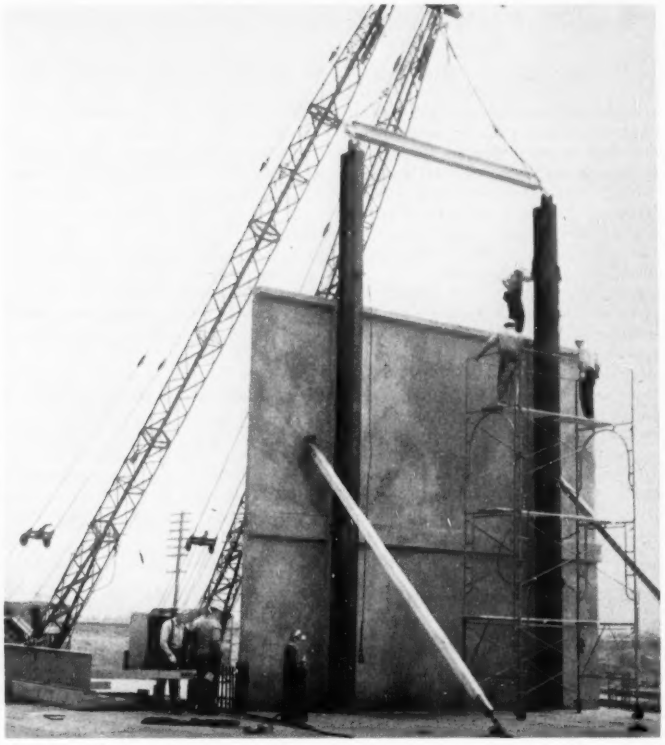
• Builder Reports Erection Time Cut 40% on Warehouses

New methods of lifting, aligning and plumbing panels on what is believed to be the largest tilt-up construction job in the nation proved time- and labor-savers in Seattle, Wash., where Morrison-Knudsen Co., Inc., A. G. C., built a $2,250,000 warehouse for Associated Grocers Co-op. Panels 30 ft. square weighing 35 tons were utilized in the structure which measures 940 by 250 ft. and covers approximately 6 acres.

Panels were cast on the concrete slab of a loading platform opposite



Above, the 35-ton concrete panels for what is believed to be the largest tilt-up construction job in the nation were raised by two cranes, while a third, inside the building area, handled the strongback. Note hinged braces.



As soon as the panel was in position and braced, workmen removed the steel I beam strongback by using impact wrenches on the spider bolts. Lifting and placing a panel took less than five minutes.

the positions in which they were to be placed, with the reinforcing mats of ½-in. steel fashioned within the building area and lifted into position for the pour. The strongback consisting of two steel I-beams was secured to the panel by means of nine "spiders," or pick-up inserts, which were imbedded in the two beams on each panel.

Lifting was done by two Lorain cranes, one 15-ton model with a 70-ft. boom, outside the building, and the second, a 10-ton rig with 50-ft. boom, inside the structure. Recognizing the fact that aligning and plumbing a 35-ton panel is not a light chore, the contractor devised a tongue and groove method to assure easy accomplishment of that task. The beveled tongue cast at the base of the panels fit snugly into the keyway, or groove of the floor slab.

Because both tongue and keyway were beveled, the panel slipped easily into a snug fit in the groove, aligning the entire wall automatically. Hinged braces on the panels each carried a turnbuckle at its lower end which was secured to an eye-bolt in the floor. Plumbing the panels was merely a matter of taking up the turnbuckles, which had a play of 5 in. for that purpose.

Once a panel was in place and braced, workmen with impact wrenches hit the bolts on the spiders and released the strongback. The crane inside the structure handled the strongbacks. The actual time required to lift, place and brace a panel required slightly less than five minutes. Time required for the crane to pick up the strongback from a panel and move it outside again was 15 minutes.

On this particular job, Erickson estimated the time to build the walls was reduced by approximately 40% through the use of tilt-up panels.

Aner Erickson, project manager for the contractor, says he believes this is the first job on which this method of aligning and plumbing panel walls has been used. The system of lifting the panels was devised after the job was under way. At the outset, a spreader bar and equalizer block on a bridle from the strongback was used. It was found, however, that the latter limited the lift and scope of the crane and the practice of placing a crane at each corner of the panel was adopted. The firewalls within the structure were placed by tilting and then shifting to a dead lift from 1½-in. steel eyes imbedded 6 in. into the concrete.

Wall panels are 6 in. thick, 12 in. at the beams and were cast with six-sack, high-early cement, although some 6½-sack was used. Pilasters carried ¾-in. iron and were of six-sack mix.

Building Briefs

A. Naughton Lane, president of the Producers' Council, last month blamed the National Production Authority for the lack of advance planning for future construction.

The uncertainty of the agency's policies is discouraging planning which should be active now for construction when restrictions are relaxed, Mr. Lane said.

"Industry recognizes that NPA's current plans may have to be revised as new developments arise," the building products official asserted, "but it should be possible to give the building industry a reasonably accurate idea of what to expect in the immediate future."

★ ★ ★

What is believed to be America's first "wrap-around" stainless steel office building is taking shape in Pittsburgh. The roof and all four sides of a four-story structure will be sheathed in stainless steel, except for door openings and a contrasting trim of colored tile at the base. The air-conditioned building will be windowless. Photo murals, special painting and lighting will be used on interior walls. The F. Hoffman Co., A.G.C., Wilkinsburg, Pa., is contractor.

★ ★ ★

The Building Research Advisory Board has a committee actively engaged in planning research on tropical housing. Three major educational institutions in the South, Southwest and Far West will shortly begin to study building problems in warm climates.

concrete UP by pipe line brings profits UP to you

With Rex® Pumpcrete®—concrete by pipe line—you have a real pipe line to lower costs—and hence higher profits. It's the pipe line *flexibility* that makes Pumpcrete the ideal method of concrete placement on so many large building construction jobs. Just spot the Pumpcrete in the one most advantageous position and extend the pipe line to the desired placement positions.

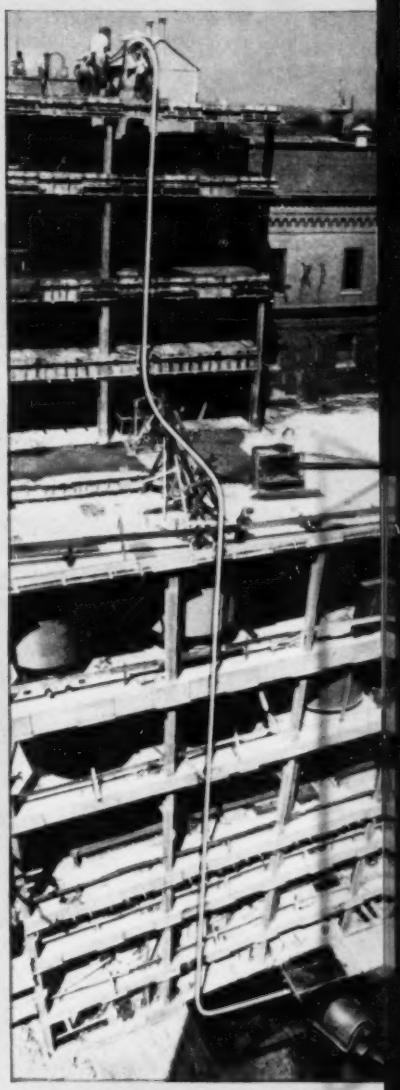
YOU SAVE FOUR WAYS:

FOURTH **YOU REDUCE NON-PRODUCTIVE MOVING TIME** With Pumpcrete you don't waste time and money moving mixing equipment from place to place. Just spot Pumpcrete in the one most advantageous location. No buggies, buggy runs or other heavy equipment to move. With Pumpcrete, you move placing equipment from floor to floor in as little as 15 minutes.

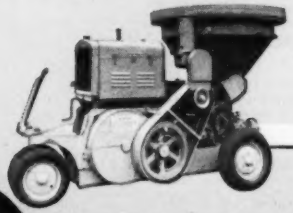
THIRD **YOU REDUCE "DEAD TIME"** With Pumpcrete, you place concrete while carpenters, form setters, electricians, plumbers are at work. Concrete is delivered steadily where and when you want it without interference.

SECOND **YOU REDUCE PREPARATORY COSTS** Pumpcrete and pipe line flexibility eliminate trestling, scaffolding, towers, expensive buggy runs and their costly re-handling.

FIRST **YOU REDUCE DIRECT LABOR COSTS** With Pumpcrete you transport, elevate and place concrete in one operation. No buggying is needed.



Nine stories high . . . 160 feet up! That's how high the Rex Pumpcrete lifted the concrete on this building job. Pumpcrete is ideal for pouring floors on buildings many stories high. As one floor is completed, the pipe line is extended to the next in as little as 15 minutes.



No matter how small or how large the area of each individual floor, pipe line flexibility pays off for you. For the complete story on how you can put up buildings for less with Rex Pumpcrete, see your local Rex Distributor or write to:

CHAIN · BELT REX COMPANY ®

CONSTRUCTION MACHINERY

Chain Belt Company, 4625 W. Greenfield Ave., Milwaukee 1, Wis.

Keep 'em Working
in the big year coming up

MOVES MORE PAYDIRT PER DAY! That's International's Big Red TD-24—the most powerful crawler on the market—the crawler that gives you the fastest work cycle.

Here's help... where and when you need it... with your International Industrial Distributor's ready service and parts departments

Your crawler tractors have to pay off with more work done per day, more days worked per year.

That means speed and power. The ability to stay on the job. Minimum downtime.

And it also means fast maintenance service at your call, when and where you need it.

That's your International Industrial Distributor's service—service that includes

TRAINED "DIESEL DOCTORS"—factory-trained specialists in maintenance and overhaul.

PROMPT FIELD SERVICE at your job site to help keep your equipment working, to get it back to work faster, to cut costly downtime on the spot.

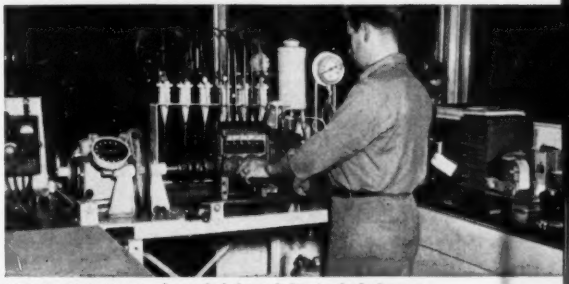
COMPLETE SHOP FACILITIES for major work—you're never far from an International Distributor's shop, no matter where your equipment goes.

QUICK PARTS SUPPLY from your distributor's fully stocked parts department, backed by International Harvester's network of strategically located parts depots (in size and scope, exclusive in the industry).

Isn't this *complete* service a mighty good reason to get International *"Power that Pays"* for the hard-working years ahead?

INTERNATIONAL HARVESTER COMPANY
CHICAGO 1, ILLINOIS

YOU NAME IT—your International Industrial Distributor has it in his big, efficient parts department. And if he hasn't, he can get it fast from his nearby International Parts Depot.



"HEART SPECIALIST!" A crawler's heart is its sturdy fuel pump. It seldom needs attention. When it does, this "diesel doctor" operates with precision instruments in a special dust-free room.

HERE'S HELP WHEN YOU NEED IT. Skilled, experienced mechanics equipped with the right tools for doing major maintenance fast at your International Distributor's shop.

ON THE JOB! Here are an International Distributor's field servicemen, on the job at the job site installing an overhauled transmission. A phone call gets this kind of service.

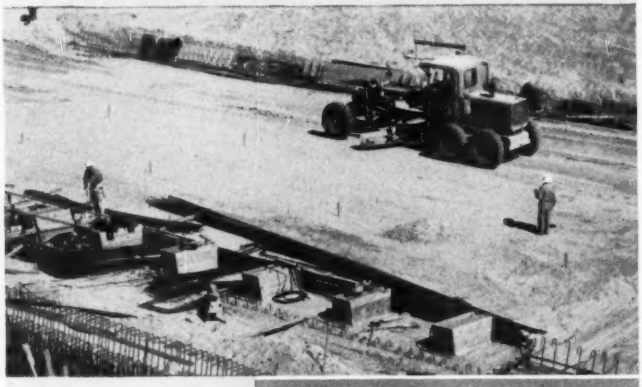
INTERNATIONAL

INTERNATIONAL HARVESTER

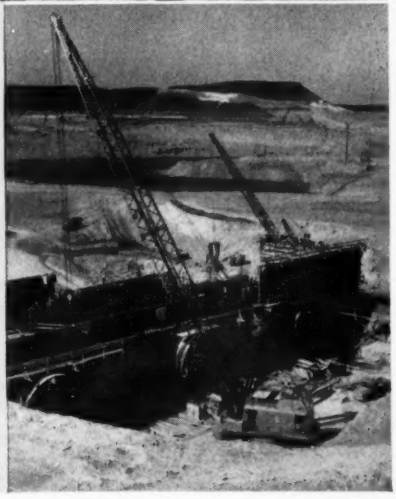
POWER THAT PAYS

Pitching 20-hour days for Morrison-Knudsen on Snake River Dam

Push-loaded by a "Cat" D8 Tractor, this "Cat" DW20 with No. 20 Scraper averages 14 trips per hour on a 1,260-ft. round trip. Average load—17 loose yards. Working day—20 hours.



With proper balance between speed, weight and horsepower, this "Cat" No. 12 Motor Grader puts out extra production at low cost.



Steady, dependable power for this Manitowoc crane with 140-ft. boom is furnished by its "Cat" D397 Engine.

The Idaho Power Company's C. J. Strike Hydroelectric project, located on the Snake River near Mountain Home, Idaho, is scheduled for completion this summer. Its earth fill dam will be 3,220 feet long, 115 feet high, 675 feet wide at the base and 30 feet wide at the top. It will contain nearly 2,000,000 cubic yards of material.

Morrison-Knudsen Company, general contractors for the development, are making good use of "Caterpillar" equipment to keep on schedule. Among the "Caterpillar" machines on their roster are a DW20 wheel-type Tractor with No. 20 Scraper, a D8 track-type Tractor with 'Dozer and a No. 12 Motor Grader. Powering a Manitowoc crane with 140-ft. boom is a "Cat" D397 Engine.

Glenn C. Johnson, Morrison-Knudsen Superintendent, keeps a close check on the performance of all his equipment. The high-speed, new "Cat" DW20 is proving itself a big producer. With the D8 push-loading, the DW20 averages 280 trips per 20-hour day on a 1,260-ft. round-trip haul. Average load per trip is 17 pay yards—a total of some 4,760 pay yards per day. Like all "Caterpillar" equipment, sturdily built to stand up under tough going, the DW20 stays on the job with a minimum of down-time.

Many contractors have found that standardization on "Caterpillar" equipment pays off in more ways than schedule-keeping performance. There's also a simplification of their service and maintenance problems that saves time and money. One dealer, the dependable "Caterpillar" Dealer, has the know-how and facilities to take care of the entire "Caterpillar" line of tractors, motor graders, engines and earthmoving equipment. By having him make regular inspections and authorizing him to recondition parts before they become unusable, contractors find they can add many extra working hours to the life of this sturdy equipment.

CATERPILLAR, PEORIA, ILLINOIS

CATERPILLAR
REG. U. S. PAT. OFF.

DIESEL ENGINES • TRACTORS
MOTOR GRADERS • EARTHMOVING EQUIPMENT

Highway Officials Told Push Construction

• A.G.C.-A.A.S.H.O. Group Meets at Southeastern Parley

» PLANNING and construction of highways must be pushed by state highway departments if additional funds and critical steel needs are to be met, a joint cooperative committee of the American Association of State Highway Officials and The Associated General Contractors of America concluded at Charleston, S. C., last month.

Highway users who have voted for higher road revenues in many states should be shown that the action was justified, the contractors and highway officials agreed. The impending federal-aid highway bill, expected to reach Congress this month, was another reason noted for states to carry forward as progressive a highway program as possible. The committee voiced doubt that Congress will approve the recent A. A. S. H. O. request for $810 million of federal aid for highways unless state departments show considerable initiative in presenting a good record of work completed or under way.

Bureau of Public Roads representatives at the meeting asserted that the agency was placing no major restrictions, except as dictated by the steel shortage, on highway construction now. The general opinion of the committee was that BPR was doing the best job possible as a claimant agency for critical materials.

Use of Termination Clause Noted

It was brought to the attention of the group that 15 states have now adopted termination clauses and five others—California, Iowa, Kansas, New York and Utah—have passed special legislation permitting contract termination where shortage of materials and new federal regulations make it desirable. Officials from some of the Southeastern states reported they are seriously considering the provision.

Mr. C. S. Mullen, chief engineer of the Virginia Department of Highways, presided at the meeting. Other state highway officials participating were: W. H. Rogers, L. W. Payne and W. E. Hawkins, of North Carolina; Sam Squiers and H. D. Long of Tennessee; and A. E. Johnson of Arkansas.

Contractors and A. G. C. representatives participating were: Charles P. Ballenger of Ballenger Paving Co., Greenville, S. C., and president of the Carolinas Branch, A. G. C.; N. K. Dickerson and R. W. Parks of Dickerson, Inc., Monroe, N. C.; J. W. Thompson of Thompson-Arthur Construction Co., Greensboro, N. C.; Robert Patten, executive secretary of the Carolinas Branch; W. O. Snyder, executive secretary of the Kentucky Highway Division; and A. N. Carter, manager of the Highway Division in the national office.

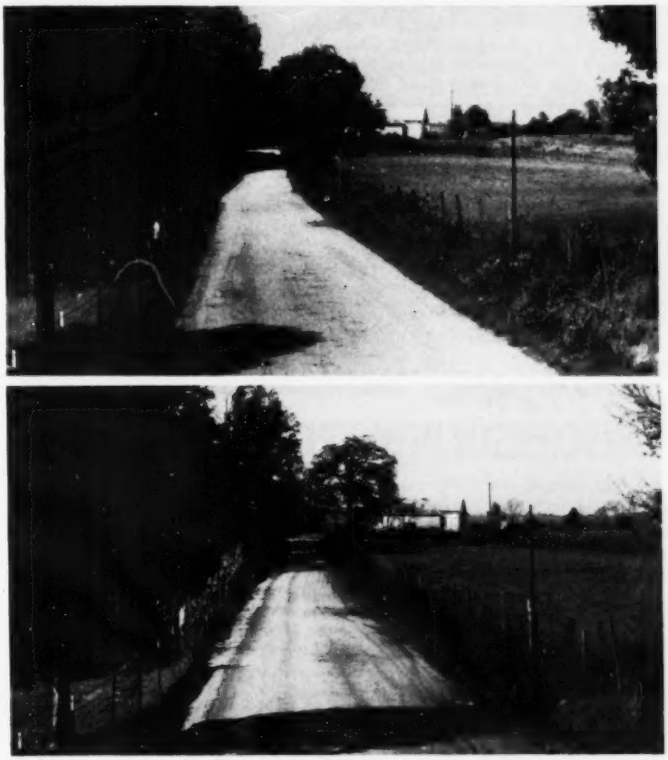
Hal H. Hale, executive secretary of the AASHO, represented that organization on the committee.

The committee met in conjunction with the annual convention of the Southeastern Association of State Highway Officials. SASHO members heard Light B. Yost of General Motors Corp. describe the firm's highway promotion drive. They elected Claude R. McMillan, chief commissioner of the South Carolina Highway Department, president for the ensuing year to succeed D. H. Bray, state highway engineer of Kentucky.

Kentucky Tries Ditch Work by Contract

• 100-Mile Test Proves Contractors Economical and Efficient

» THE success of recent experiments by the Kentucky Department of Highways in ditching rural roads by contract may result in more of such maintenance being done by local contractors. *(Continued on next page)*



Before and after scenes on a rural Kentucky road. Top, before contractors went to work on 100 miles of neglected ditches, they looked like this. Bottom, after the successful experiment of "pulling" the ditches by contract they looked like this—providing better drainage and new shoulders.

A contractor's machine working out the shoulder after pulling ditch on Kentucky road, a maintenance job done in most states by the highway department. The Kentucky Association of Highway Contractors, A.G.C., was consulted on specifications for the trial contracts prior to letting.

Believing that it would be more economical and more efficient if highway contractors were given the job of cleaning and renewing ditches on roads under his jurisdiction, George Hailey, director of the Division of Rural Highways, undertook such a program this past summer. Now, an evaluation of the work completed has confirmed his hopes, he reports.

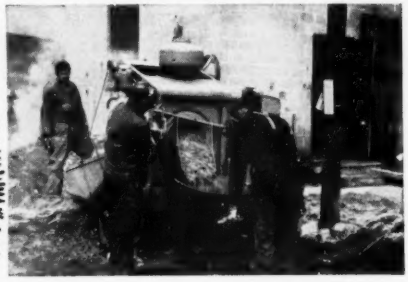
Mr. Hailey, with the assistance of District Engineer R. C. Pile, proposed projects for 100 miles of ditching in four counties. Though submitted to four districts before the test, the proposal was given a favorable reception only in Mr. Pile's district. The other engineers preferred to await the results of the trial contracts, which were to be awarded on a road-mile or ditch-mile basis.

Three different contractors completed the assignments on bids low enough to keep average cost per mile to about $250. The highway division felt that the same work could not have been done by state forces for that amount, particularly if district overhead and supervision were added to actual payroll and equipment cost.

Kentucky contractors are hoping to see more mileage placed under con-

(Continued on page 52)

POWER TO FIT THE MACHINE
POWER TO FIT THE JOB



WISCONSIN-POWERED KWIK-MIX DANDIE MIXER!

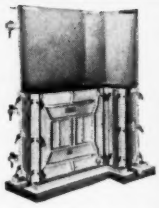
Fast charging and discharge, rapid re-mixing *plus* high strength steel at key stress points are just a few of the features of the Kwik-Mix Company Mixer . . . another unit powered by a Wisconsin Heavy-Duty Air-Cooled Engine.

No machine is better than its power, which is why Wisconsin Engines predominate. And these superior points are *behind* their *far ahead* performance. The crankshaft always rides easily and trouble-free, supported by tapered roller bearings at both ends . . . no danger of bearing failure. Cooling, too, is best, summer and winter, when you depend on air alone. And the OUTSIDE magneto, with impulse coupling, offers you more than easy servicing . . . you get quick starts and steady running always, rain or shine, cold weather or hot.

Write for details about all 4-cycle single-cylinder, 2-cylinder and V-type 4-cylinder models, 3 to 30 hp.

WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 46 WISCONSIN

Save manpower time and material



- Foundations and Walls
- Water or Sewage Treatment Plants
- Tanks — Circular and Rectangular
- Bridges, Culverts and Box Tunnels

When placing concrete, use this nationwide Form Rental and Engineering Service to increase profits, reduce costs.

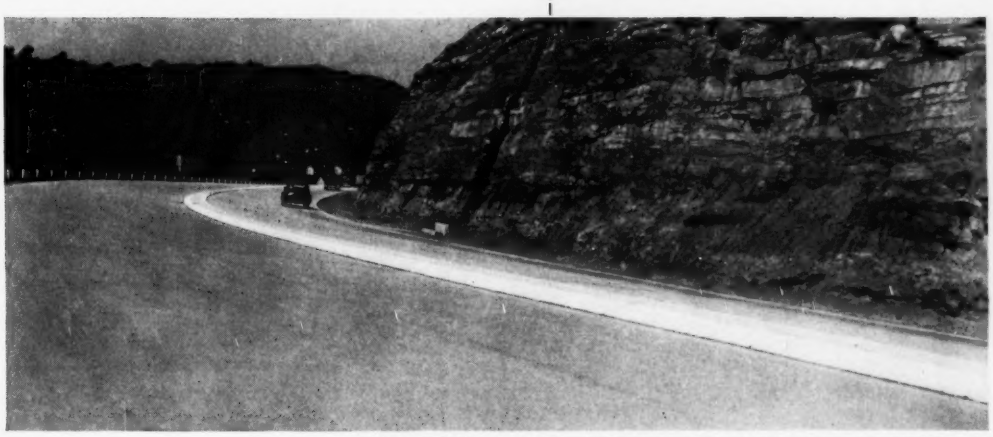
Standard units of Economy Forms fit most jobs. But where needed, special forms can be built to specification.

ECONOMY FORMS CORP.
Home Office: Des Moines, Ia.

ECONOMY FORMS
metal forms for concrete construction

District Sales Offices:
Kansas City, Mo.
Omaha, Neb.
Minneapolis, Minn.
Milwaukee, Wis.
Fort Wayne, Ind.
Cincinnati, Ohio
Pittsburgh, Pa.
Springfield, Mass.
Metuchen, N. J.
Decatur, Ga.
Dallas, Texas
Los Angeles, Calif.
Oakland, Calif.
Denver, Colo.

This highway was "winterized" when it was built —with DURAPLASTIC



Section of highway in Allegheny County, Pa., near Pittsburgh, built with Duraplastic. White concrete reflecting curbs made with Atlas White Duraplastic. Designed by Pennsylvania State Highway Dept. General contractor: Harrison Construction Company, Pittsburgh; paving sub-contractor: McCrady Construction Company, Pittsburgh; White curb installed by E. Arthur James, Johnstown, Pa.

Come freeze or thaw or de-icing salt, this section of highway near Pittsburgh is ready for the winter's worst, because the concrete was made with Atlas Duraplastic air-entraining portland cement.

Duraplastic makes more durable concrete because it minimizes segregation and bleeding. Thus, concrete is fortified against the effects of freezing-thawing weather and the scaling action of de-icing salts.

Less mixing water is required for a given slump with Duraplastic cement. It makes concrete more workable, more cohesive and more uniform. Naturally, such a mix dumps, spreads and finishes easily. And it allows finishing close to the paver . . . permits earlier protection for curing.

YET DURAPLASTIC* COSTS NO MORE

It sells at the same price as regular cement and requires no unusual changes in procedure. Complies with ASTM and Federal Specifications. For descriptive booklet, write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

OFFICES: *Albany, Birmingham, Boston, Chicago, Dayton, Kansas City, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis, Waco.*

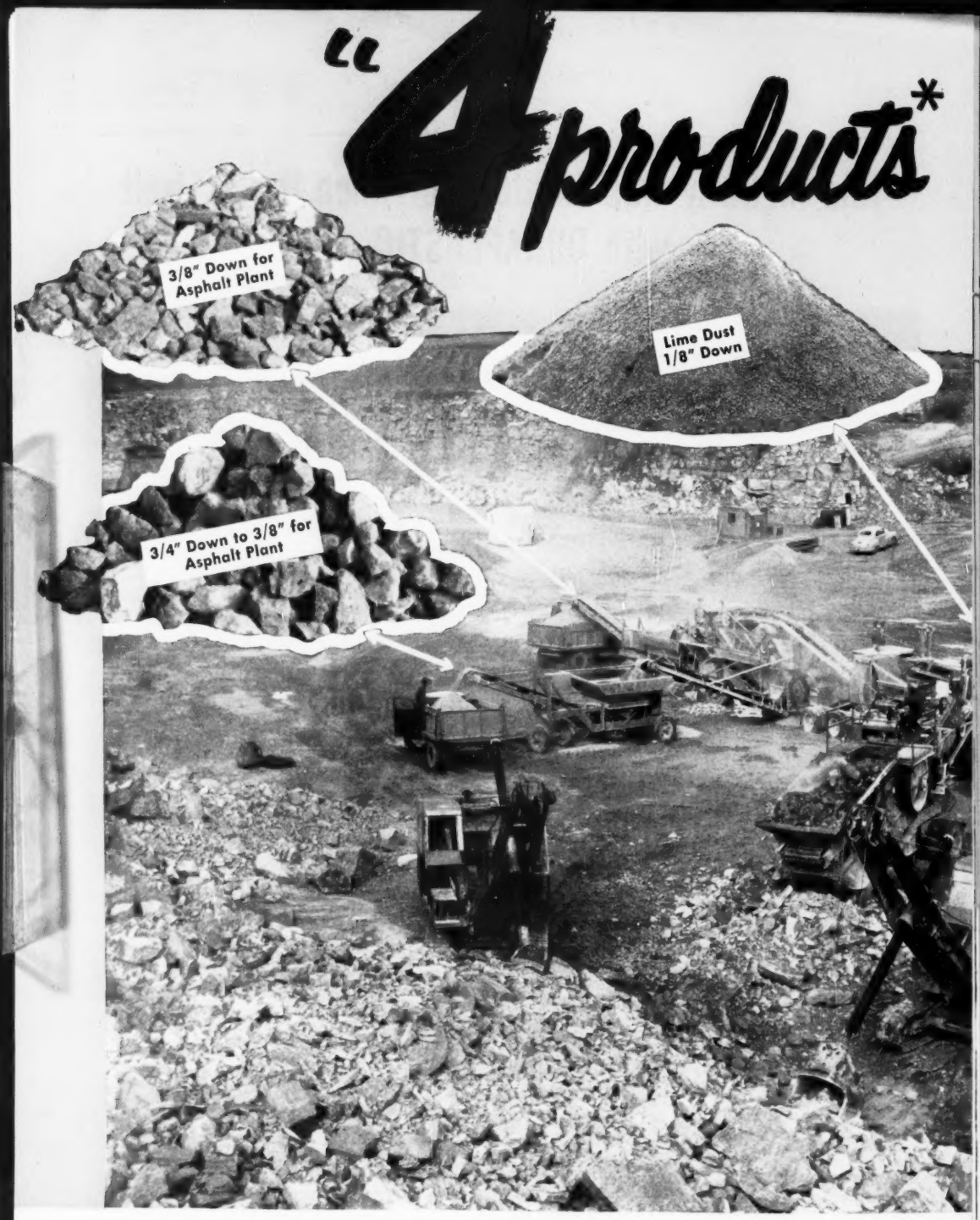
**"Duraplastic" is the registered trade mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company.* C 0.155

ATLAS® **DURAPLASTIC**

AIR-ENTRAINING PORTLAND CEMENT

Makes Better Concrete at No Extra Cost

"THE THEATRE GUILD ON THE AIR"—*Sponsored by U. S. Steel Subsidiaries—Sunday Evenings—NBC Network*



THE IOWA LINE *of Material Handling Equipment Includes:* ROCK AND GRAVEL CRUSHERS • BELT CONVEYORS • STEEL BINS • VIBRATOR AND REVOLVING SCREENS • UNITIZED ROCK AND GRAVEL PLANT • FEEDERS • PORTABLE POWER CONVEYORS • PORTABLE AND STATIONARY STONE, GRAVEL AND SAND PLANTS REDUCTION CRUSHERS • BATCH TYPE AND VOLUMETRIC TYPE ASPHALT PLANTS • DRIERS • DUST COLLECTOR HAMMERMILLS • WASHING PLANTS • VIBRATING SOIL COMPACTION UNITS • DOUBLE IMPELLER IMPACT BREAKER

at a time and 210 TONS PER HOUR

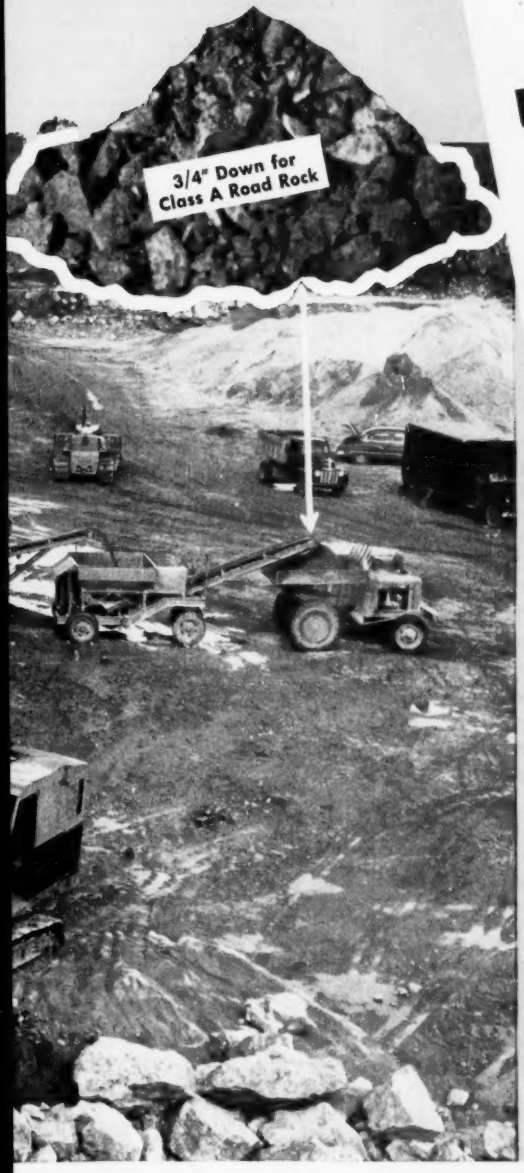
from one of my

UNITIZED PLANTS!

That's why I buy

CEDARAPIDS"

Says B. L. Anderson
Cedar Rapids, Iowa



*Lime dust from 1/8" down, *3/4" Class A Road Rock for county roads, *3/8" minus and *3/8" to 3/4" aggregate for black top... that's what B. L. Anderson's Unitized Plant is producing *in one operation,* at a rate of 210 tons per hour!

And that's not all! When Mr. Anderson wants to meet specifications for other jobs, the basic units of his Unitized Plant can be combined in any way to produce any size products in volumes up to 250 tons per hour, with real economy in operating costs and maintenance.

Mr. Anderson's Unitized Plant illustrated here consists of a 2236 Primary Unit, a Screening Unit with 4' x 12' Horizontal Screen, a 4033 Hammermill Secondary and four Portable Bins. The rock crushed for black top is being mixed in a Cedarapids Model ECW Asphalt Plant operating at the same location. B. L. Anderson also has two other quarry operations each using 2236 Portable Primaries and 4033 Hammermill Secondaries.

More and more contractors are insisting on the advantages of Cedarapids equipment... single units or complete portable plants... to meet today's stepped-up demands for low-cost aggregate and black top. Your Cedarapids distributor can give you *all* the reasons why... ask him for full details.

IOWA MANUFACTURING COMPANY

Cedar Rapids, Iowa, U.S.A.

CONTINENTAL RED SEALS . . .

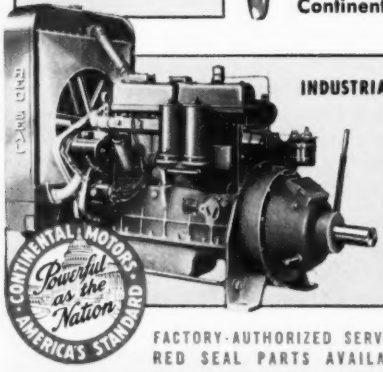
Squeeze

ALL THE POWER

FROM ANY FUEL

THERE'S A CONTINENTAL RED SEAL MODEL ENGINEERED TO THE EXACT NEEDS OF VIRTUALLY EVERY INDUSTRIAL, CONSTRUCTION, TRANSPORTATION AND FARM JOB.

Fuel economy takes on new importance in these days of rising costs—and Continental Motors' 50 years of aggressive engineering has produced an expert matching of the factors on which economy depends. The more equipment you operate, the more you'll save by standardizing on makes that feature famous Continental Red Seal power.



INDUSTRIAL MODEL R-600 . . .

Open Power Unit. Six cylinder, overhead valve design. 65 to 110 shaft horsepower for continuous duty—75 to 140 shaft horsepower for intermittent duty. This Continental Red Seal model also available as closed power unit with sturdy sheet metal house with detachable sides.

FACTORY-AUTHORIZED SERVICE AND GENUINE CONTINENTAL RED SEAL PARTS AVAILABLE FROM COAST TO COAST

Continental Motors Corporation

MUSKEGON, MICHIGAN

HIGHWAYS • AIRPORTS

Ditching—*(Continued from page 48)*

tract next season as the result of these trial contracts. The Division of Rural Highways has noted that at least 25% of a county's allocation is earmarked for maintenance and Mr. Hailey has expressed the opinion that, by placing drainage work under contract, that money could be stretched further and the work still be done satisfactorily within a reasonable time.

In most instances, the work required only graders and contractors were not required to haul the material pulled from the ditches.

W. O. Snyder, executive secretary, Kentucky Highway Division, A.G.C., reports that his organization was invited to review tentative specifications for the work.

Good Roads Drive Praised

» A RESOLUTION commending the manufacturers who are calling the need for more adequate highways to public attention was adopted by the Executive Committee of The Associated General Contractors of America at its meeting in Washington last month.

Members of the committee were of the opinion that the manufacturers were performing a valuable service to the entire nation by pointing out the need for increased highway construction for greater safety on the highways, to handle the increasing volume of traffic, to keep pace with deterioration, and to assist in the national defense.

The Goodyear Tire and Rubber Co., Ford Motor Co., and Firestone Tire and Rubber Co. within recent months have undertaken national advertising campaigns demonstrating the need for more adequate highways. The General Motors Corp. is now showing a motion picture throughout the country also calling attention to the need. In the past Caterpillar Tractor Co., Allis-Chalmers Co. and others have advertised similar messages.

Currently a Projects Adequate Roads program is being formulated by various organizations, including the A.G.C., working through the National Highway Users Conference for vigorous promotion of improved highway transportation.

The A.G.C. Executive Committee adopted the resolution of appreciation to the manufacturers on behalf of all of the more than 6,100 members.

HIGHWAY BRIEFS

First paving to go down on the Oklahoma City-Tulsa turnpike will be 5-in. asphaltic concrete on a 7-in. rock base, climaxing a long fight between asphaltic concrete interests and the Portland Cement Association over which type is the most economical—in initial cost and maintenance.

Contractors from seven states offered bids on the 27.4-mile stretch, split into six jobs. Total of low bids was just over $3 million.

* * *

A survey by the New England Council revealed recently that about $1.1 billion has been spent to improve New England transportation facilities since 1945. Highway expenditures totaling $832 million were found to be almost all state money. They financed 1,826 miles of new highways and 1,569 miles of reconstruction.

The expenditure of $55 million on airport construction brought the region's total of airports to 95.

* * *

Two Midwestern cities are planning new or improved municipal airports to meet military needs. Kansas City has been told that the advent of commercial jet planes would require construction of a new super airport by the city within five years. About $7.3 million is now available.

At Indianapolis, plans have been drawn to construct hangars and other facilities at a cost of $1.7 million.

* * *

Navy engineers have eliminated steel from plans for an aircraft parking apron to save about 300,000 sq. yds. of wire mesh and steel dowels for expansion joints—as well as about $252,000.

The move was made at the $1.4 million Marine Air Station at Cherry Point, N. C.

Heads, You Win!

A flip of a coin recently meant a $21,660 state highway contract for the L. A. Woodward Construction Co., A.G.C., Missoula, Mont.

Woodward and the Keily Construction Co., A.G.C., Butte, Mont., both were low on a job to remove about 19,000 cu. yds. of potential slide material along a state route.

Woodward got the job on the toss of a coin.

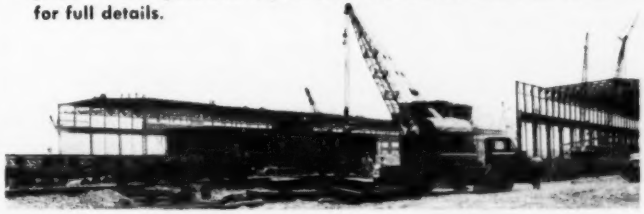
WORKS BOTH ENDS

ON BIG STEEL MILL PROJECT...

Get it done . . . and fast! That's the "word" at the site of U. S. Steel Company's new Fairless Works. And that's the reason James Armour Excavating Company is using two MICHIGAN Truck Cranes to handle and distribute materials at this huge steel mill project.

Here's just one example cited by operator Randall Auer: One of the MICHIGANS transferred pipe from a freight car to a truck, then followed the truck to a spot half-a-mile away where it unloaded the pipe. It then accompanied the empty truck back to the car for another load. The process was repeated until all the pipe had been removed from the car. Only MICHIGAN'S *speed and mobility* made it possible to work both ends of this job with one crane.

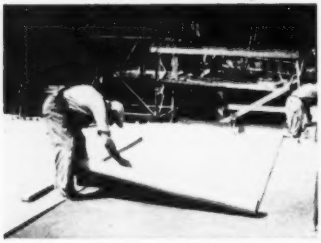
When you need an excavator-crane that has everything you want *plus* speed and mobility, investigate MICHIGAN . . . most complete line of ⅜-yard and ½-yard excavator-cranes available. Write for full details.



MICHIGAN POWER SHOVEL COMPANY

485 Second Street, Benton Harbor, Michigan, U.S.A.

SISALKRAFT "BIG BUILDING" PROTECTION AT SMALL COST



CLEAN, DUST-FREE FLOORS *at reduced cost*

IT'S STRONG: SISALKRAFT is so strong it furnishes positive protection from construction debris, and prevents marring and construction stains. Its strength makes it ideal for many "closing-in" operations, too.

IT'S LIGHT-WEIGHT: SISALKRAFT is so light and convenient to handle that it can be rolled into place easily and removed quickly. Can be re-rolled in most cases, and re-used many times over.

IT'S AUTOMATIC CURING: The SISALKRAFT Method of curing and protecting concrete is automatic . . . no watching, no sprinkling, no other covering required.

IT'S A "NATURAL" FOR YOU on single-story and multi-story jobs . . . also for curing and protecting driveways, sidewalks, foundations, roads and other concrete slab work or masonry.

Used on thousands of buildings, large and small, including world famous UNITED NATIONS Secretariat Building, MERCHANDISE MART and many others.

Write Dept. TC1
for free samples and data

SISALKRAFT
WATERPROOF
SISAL-REINFORCED
PROTECTIVE PAPERS

THE SISALKRAFT CO.
205 West Wacker Drive, Chicago 6, Illinois
New York 17, N. Y. • San Francisco 5, Calif.

Highway Revenues Uptrend Continues

• Gas and Truck Taxes Boosted to Raise State Road Funds

» A CONTINUING uptrend in highway revenues is being reported from state capitals throughout the country.

Some of the new funds are from increased motor fuel taxes and more comes from revised registration fees and special taxes. In at least two states—Alabama and Georgia—anti-diversion measures will swing more income to their highway departments.

Seven states have reported substantially increased motor fuel tax receipts recently, only one of which —Illinois—attributed the increment to a higher tax rate, however. California revealed a $2 million increase from gasoline taxes during July, August and September as compared with the same period last year. New York State's gasoline tax produced $3.5 million more between April and October than in the same six months in 1950. In Alabama, gasoline tax receipts yielded an increase of $3.5 million over last year, and in Illinois they soared from about $6.2 million during September 1950 to $8.1 million the same month in 1951. Ohio, Virginia and New Jersey revenues have bounded upward, also.

States Raise Motor Fuel Taxes

Highway construction and maintenance is likely to find easier financing in the eight states which raised their motor fuel tax rates in 1951. They are New Hamphire, North Dakota, South Dakota, Utah, Wyoming, Massachusetts, Michigan and Illinois. Four other states—Kansas, Nevada, Oklahoma and Pennsylvania—extended temporary tax increases for another two years.

The Michigan increase is expected to add $26.5 million annually to a newly created fund for state (44%), county (37%) and municipal (19%) road purposes. About $40 million annually is anticipated from the increase in Illinois gasoline tax rates.

Tax Rates Drop in Some States

Both Georgia and New Mexico reduced tax rates in 1951, and proposed increases failed to be enacted in Arkansas, California, Colorado, Indiana, Montana, Nebraska, New Jersey, Ohio, North Carolina, Oklahoma, Texas, Vermont, Washington, West Virginia and Wisconsin.

County commissioners in Indiana are launching a new campaign to boost the state gasoline tax from 4 to 6 cents to provide more county road revenues.

There seemed to be no definite pattern in the variety of revisions that 17 states made in their registration fees and special highway taxes. Most of the new arrangements were calculated to bring in more needed construction and maintenance money, and methods were juggled freely with diverse results.

$20 Million Increase in Illinois

New York is hoping for a $17 million increase in highway revenues from a new mileage tax on heavy vehicles and Idaho expects $1 million from a similar arrangement. In Illinois, officials foresee $20 million more next year and $28 million thereafter from increased heavy vehicle registration fees. Michigan and Massachusetts both expect between $5 million and $6 million additional from the same source.

Ohio's proposed mileage tax was defeated but truck registration fees were boosted to yield an estimated $7.5 million more.

Delaware reduced diesel truck registrations, however, and Florida cut mileage taxes on for-hire carriers.

Push Idaho Road Test Plans

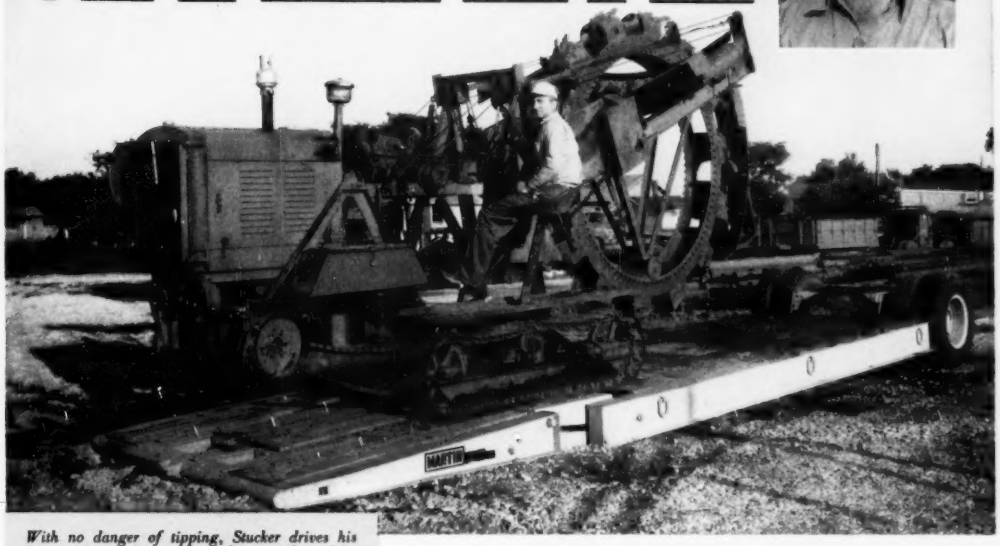
The Western Association of Highway Officials is perfecting plans for its Idaho road test to take place this year. Specifications have been determined for the test highway and construction may begin as soon as a contract is let and weather permits.

The new strip, to be located between Pocatello and Ogden, will be 1½ to 2 mi. long, with various types of sub base and paving in 300-ft. sections to test the reaction of each. The road itself is expected to cost about $188,000 and maintenance and testing require $95,000.

The Highway Research Board is managing the test and financing is by the 10 states involved. An advisory committee formed of representatives of highway users, petroleum interests, trucking associations, the Army and the Bureau of Public Roads is donating vehicles, maintenance, fuel and oil.

Contractor Orville Stucker Reports . . .

"I CUT MY HAULING TIME IN HALF with a MARTIN 'Folding Gooseneck' Trailer!"



With no danger of tipping, Stucker drives his low-traction ditcher up the wide ramp formed by the Martin F2S "Folding Gooseneck". It's quickly picked up and ready to go — no ramps or cribs to build or tumble.

HAVE YOU SEEN THE MARTIN MOVIE?

Ask your Martin-"Caterpillar" Dealer for a showing of the new film "Machinery on the Move". Ten minutes long, the sound-color movie shows why and how the "Folding Gooseneck" saves you time and money. Give him a ring!

"When you make 5 to 6 moves a day, hauling has to be quick and easy. My Martin 'Folding Gooseneck' Trailer has reduced my hauling time 50% . . . and there's no equal for ease in loading and unloading of construction equipment on city streets. I recommend this trailer to any contractor who wants faster loading and a way to increase his equipment working time!"

That's the way Contractor Orville Stucker, of Wichita, Kansas, feels about his Martin "Folding Gooseneck" Trailer . . . and you'll feel the same when you make a haul with a Martin. You'll be amazed at the ease with which low traction units walk up the slightly inclined ramp . . . the speed with which the trailer is picked up and on its way . . . the way it saves time and money on any haul — clearing low overhead obstructions, smoothing out rough hauls and carrying all equipment with a safe stability.

Visit your Martin-"Caterpillar" Dealer . . . let him show you the time and cost-cutting operation of the Martin "Folding Gooseneck" Trailer. There are seven standard models — one to fit your needs exactly. Call on him — today!

MARTIN Trailer

MARTIN MACHINE CO.
KEWANEE, ILLINOIS, U.S.A.

A.G.C. Reviews Contract Issues With Navy

• Task Unit Holds Washington Parley to Resolve Differences

» THE FIRST meeting of a task unit of the Committee on Contract Forms and Specifications of The Associated General Contractors of America and the Navy Bureau of Yards and Docks was held in Washington on December 5.

Exploratory discussions were held on possible improvements in specifications, bidding and awarding procedures, and bonding practices. Purpose of A.G.C. task units with government agencies are to correlate the experiences of general contractors to make recommendations which are in the interests of the industry and the government.

The unit had been formed at the request of Admiral J. J. Manning, at the time he was Chief of the Bureau of Yards and Docks. The December meeting, for the A.G.C., was attended by Edward P. Coblentz, McLean Contracting Co., Baltimore, chairman; John MacLeod, Macco Corp., Paramount, Calif., unit member; George Heller, Johnson, Drake & Piper, Inc., Minneapolis, chairman A.G.C. Heavy Construction and Railroad Contractors' Division; Assistant Managing Director J. D. Marshall; and J. M. Sprouse, A.G.C. national staff.

Navy representatives reported that 100% performance bonds generally are required because premiums are no larger than for smaller percentages, and they forestall possible Congressional criticism. The A.G.C. Executive Committee subsequently recommended this as a subject for discussion by the Joint Cooperative Committee of A.G.C. and The Surety Association of America so that the industry viewpoint can be reported to the Navy.

The "additive items" in specifications for a building were discussed, with contractors pointing out that the phrase can be misleading. A.G.C. representatives also voiced objection to the Bureau's elimination of certain items from the specifications after bids had been received and performance of the work with Navy maintenance forces and funds. These are being studied by the Navy for clarification or correction.

During a discussion of delays caused by the priorities and allocation system, or other causes by the government, Bureau representatives stated they do not assess liquidated damages and grant extensions of time for such delays, but are prevented by law from compensating the contractor for his expenses during the delays.

The awarding of contracts to bidders who furnish bonds after the bids are opened was discussed. It was reported that a recent Comptroller General decision requires this be done if the bidder furnishes a legally reasonable cause for not including the bond with his bid.

Disposal Plant Need Cited

Reports citing the need for construction of new water treatment plants in California and the Great Basin drainage areas, reviewed in The Constructor last month, have been followed by reports for three other regions.

The U. S. Public Health Service has now released its estimates of needs in the New England, the Pacific Northwest and the Colorado River drainage basins. They involve hundreds of new plants throughout those areas, which must be built, the agency maintains, if local citizens expect to receive the benefits of pure water in the future.

The New England area needs new disposal projects at 593 municipalities and institutions and another 671 new industrial waste treatment plants. In addition, hundreds of enlargements and replacements are necessary, the study shows. The cost of the proposed construction would reach $250 million.

In the Pacific Northwest, the health service claims a need for 309 municipal projects, mostly new plants, to augment the 22 now under construction. The addition of 67 more industrial treatment facilities is expected to boost the total proposed construction in the area to over $123 million.

It is estimated that construction of facilities requested by the state pollution control agencies in the Colorado River drainage basin will cost approximately $11 million. Those requirements include 34 new plants, additional treatment facilities at 31 plants and the replacement of 53 existing plants. The area has built 14 new sewage treatment plants in the last four years.

Heavy Construction Notes

A contract for construction of a power plant and appurtenant works at Alcova Dam on the Kendrick Reclamation Project near Casper, Wyo., has been awarded to the A. S. Horner Construction Co., A.G.C., Denver.

The company submitted a low bid of about $2.3 million for what amounts to 22 major construction features. The work ranges from excavation and building erection to installation of a 125-ton traveling crane, interior and exterior painting, and lighting of the power plant grounds.

* * *

A review of military public works is being made by the Department of Defense with an eye to re-evaluating their importance. Although the department had initially requested almost $4.5 billion, Congress appropriated only about $3.9 billion. The program reviews are expected to postpone items at many projects rather than eliminate entire programs.

* * *

J. A. Terteling & Sons, A.G.C., Boise, were awarded the initial contract last month on the Palisades Dam project in Idaho. The firm submitted a bid of $1,242,700 for open-cut and tunnel excavation work on a diversion tunnel. The earthfill structure, 260 ft. high, will eventually cost about $76.6 million.

* * *

A memorial passed by the 1951 Montana legislature opposing Missouri and Columbia valley authorities was vetoed by Governor Bonner on the grounds that it might give Congress a "misleading impression as to the desires of the people of Montana for complete utilization of their water resources."

* * *

On the East Coast, the Interstate Commission on the Delaware River is continuing to seek agreement on a plan under which Delaware, New Jersey, New York and Pennsylvania would join in a half-billion-dollar program for development of the upper Delaware River as a major source of potable water. A four-state agency would finance the project.

* * *

Minnesota communities are now planning or constructing 171 water pollution control projects, mostly sewer systems and treatment works.

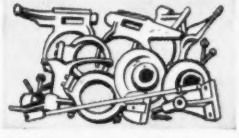
up to 25% more production

LINK-BELT SPEEDER with *Speed-o-Matic* controls

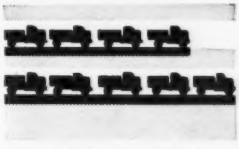
This Link-Belt Speeder LS-51 with trench hoe attachment is a real glutton for work. Full hydraulic Speed-o-Matic Controls produce faster cycles—make it easier on operators—increase production up to 25%.

Speed-o-Matic full hydraulic controls mean stepped-up production

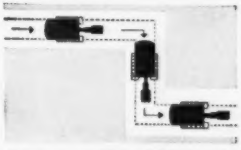
Speed-o-Matic Controls — fully hydraulic! You "feel" the load all the way. Simple, easy—fingers instead of muscles do work.



Eliminates up to 150 parts — cuts friction, no worn bushings, pins, links or clutch toggles to put you "down."



Up to 25% more production — fast operating cycle steps up output and profits. Effortless control keeps operator fatigue down.



Turns on a Dime. Either track can drive or be locked independently. Hydraulic control gives instant response.

Here are other LINK-BELT SPEEDER plus features that work for you

Convertibility — designed for peak production as shovel, crane, dragline or trench hoe. Convert in field—quickly, easily.

Gooseneck Trench Hoe — improved digging and dumping plus far less undercutting of the machine on deep cuts.

All Welded Construction — extra strength without extra weight. Resists impact and twist. Field service simple, fast.

Service — fast, efficient. Link-Belt Speeder Service is nationwide—near you with replacement parts, factory-trained mechanics.

LINK-BELT SPEEDER
CORPORATION
12,603

Builders of the most complete line of shovels, cranes and draglines

CEDAR RAPIDS, IOWA

LE ROI

Thrifty

LE ROI GIVES YOU MORE FOR YOUR MONEY!

Le Roi-CLEVELAND Wagon Drills put your deep holes where you want them for better breakage, lower costs. Drill at any angle. 4" bore, powerful force of blow, strong rotation, thorough hole-cleaning action. Higher drilling speed with big bits. For shallow holes, the lightweight DR34 unit is your best bet.

Le Roi Airmasters have 10% to 30% lower piston speed—for less wear, longer life, lower fuel consumption. Heavy-duty Airmaster engine is designed especially for compressor service — it is not just an automotive unit slowed down. Airmasters stay on the job longer, produce more air for less. Sizes, 60 to 600 cfm.

Le Roi-CLEVELAND Sinkers have strong rotation, powerful blow from snappy valve action. Drill more inches per minute. Easy to hold, kickback is reduced. Operators get less tired, drill more feet per shift. Sizes, 17 to 82 lbs., including the popular H10 and H111.

Team cuts costs with plenty of air, plenty of wallop

Le Roi Airmaster Compressor and Le Roi-CLEVELAND Rock Drills and Paving Breakers

HERE'S a team you can't beat — and here's why:

First of all, you've got a Le Roi Airmaster Compressor. Airmaster dependability means air in a hurry — as much as you want — when you want it! Airmaster construction features mean longer engine life, less maintenance, lower operating costs.

Then, you've got Le Roi-CLEVELAND air tools. Their exclusive valve action assures low air consumption — high air pressure at the tools. They really stand up, too — break more pavement, dig more clay, drill more rock, tamp more fill.

Yes, sir, the Le Roi Airmaster, Le Roi-CLEVELAND tool team pays off with top satisfaction at bottom costs. Job data from all over prove that.

Have your nearest Le Roi distributor put this team through their paces for you. Visit him now. Write for bulletins.

LE ROI COMPANY

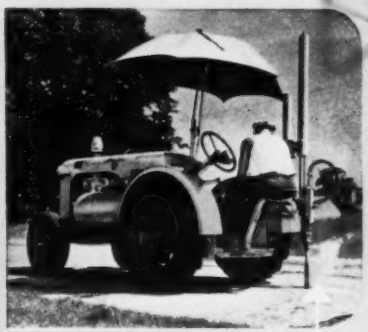
MILWAUKEE 14, WISCONSIN

PLANTS: MILWAUKEE • CLEVELAND • GREENWICH, OHIO

Distributors in all these principal cities

ALABAMA: Birmingham, Mobile — ARIZONA: Phoenix — ARKANSAS: Little Rock — CALIFORNIA: Bakersfield, Long Beach, Los Angeles, San Francisco—COLORADO: Denver, Grand Junction — CONNECTICUT: Hartford — FLORIDA: Jacksonville, Miami, Tampa — GEORGIA: Augusta, Decatur—IDAHO: Boise, Idaho Falls, Twin Falls—ILLINOIS: Chicago—INDIANA: Indianapolis—IOWA: Cedar Rapids, Des Moines, Waterloo—KANSAS: Great Bend, Kansas City, Pratt, Wichita—KENTUCKY: Lexington, Louisville—LOUISIANA: New Orleans, Shreveport — MAINE: Augusta — MARYLAND: Baltimore, Hyattsville — MASSACHUSETTS: Hyde Park, Newton Highlands, Worcester—MICHIGAN: Detroit, Grand Rapids—MINNESOTA: Duluth, Minneapolis — MISSISSIPPI: Jackson — MISSOURI: Joplin, St. Louis — MONTANA: Billings, Great Falls, Kalispell, Missoula — NEBRASKA: Omaha — NEW HAMPSHIRE: Manchester — NEW JERSEY: Cranford, Kingston — NEW MEXICO: Albuquerque — NEW YORK: Albany, Binghamton, Buffalo, Long Island City, Newburgh, Rochester, Saugerties, Syracuse, Whitesboro, Woodside (L.I.) — NORTH CAROLINA: Charlotte — OHIO: Cincinnati, Cleveland, Columbus, Dayton, Toledo — OKLAHOMA: Oklahoma City, Tulsa — OREGON: Portland — PENNSYLVANIA: Bethlehem, Harrisburg, Philadelphia, Pittsburgh — RHODE ISLAND: Providence — SOUTH CAROLINA: Columbia — SOUTH DAKOTA: Rapid City, Sioux Falls — TENNESSEE: Chattanooga, Knoxville, Memphis, Nashville — TEXAS: Dallas, El Paso, Houston, Lubbock, San Antonio — UTAH: Salt Lake City — VIRGINIA: Richmond, Roanoke — WASHINGTON: Seattle, Spokane — WEST VIRGINIA: Clarksburg, South Charleston — WISCONSIN: Milwaukee — WYOMING: Casper

MORE AIR POWER! MORE FOOTAGE! MORE PROFITS!



Le Roi-CLEVELAND Breakers and Spades pack plenty of punch for speedy work in the hardest concrete or stiffest clay. Protective air-cushion in front end assures long life. Well balanced for easy handling. That's why operators like them — do more work with them. Sizes, 18 to 80 lbs.

Tractair is a combination tractor-105 cfm compressor that can be equipped with a wide variety of attachments. Does the work of specialized equipment — breaking, drilling, digging, tamping, loading, lifting, backfilling, snow-plowing, etc. Saves you money on initial investment and on job costs.

C-133

A.G.C.'s 33rd Convention to Study '52 Problems

» GENERAL CONTRACTORS will study the problem of sustaining a high volume of both defense and essential civilian construction within the complex framework of a stepped-up mobilization program at the 33rd annual convention of The Associated General Contractors of America, Feb. 25-28, in Detroit, Mich.

The convention will be headquartered at the Statler Hotel and will be sponsored by the Michigan chapters of the association.

Arrangements have been made with the Drake Hotel in Chicago so that accommodations can be made for the day, or overnight, for A.G.C. members staying in Chicago en route to the Detroit convention. Reasonable advance notice should be given to G. E. R. "Dick" Flynn, vice president and sales manager.

Executives in charge of important segments of the mobilization program, defense facilities, and essential civilian construction are expected to address the sessions.

Members of the association, representing more than 6,100 general contracting firms throughout the United States and Alaska which perform 80% of the nation's contract construction, will study the problems involved in sustaining a volume of construction in 1952 approaching the record 1951 total of $30 billion in new facilities.

A.G.C. joint cooperative committee meetings will be held in conjunction with the convention, including those with the American Association of State Highway Officials, and the Associations of Casualty Insurers.

The association's committees will meet Friday, Saturday and Sunday preceding the opening general convention session on Monday afternoon. The Governing and Advisory Boards meet Monday morning.

An excellent program of entertainment for both members and their wives is being planned by the convention committee, with Leo P. Richardson, Detroit, as general chairman, assisted by Co-chairmen L. M. Denton, Detroit, and H. L. Conrad, Lansing.

Events scheduled from Friday, Feb. 22, through Thursday, Feb. 28, are:

Friday

Morning
- Joint Cooperative Committee of A.G.C. and Associations of Casualty Insurers

Afternoon
- Executive Committee

Saturday

Morning
- Labor Committee
- Accident Prevention Committee

Afternoon
- Finance Committee
- Public Relations Liaison Committee of Secretaries' and Managers' Council

Sunday

Morning
- Secretaries' & Managers' Council
- Apprenticeship Committee
- Contract Forms and Specifications Committee
- Legislative Committee
- Public Relations Committee

Afternoon
- Executive Committee
- Market Development Committee
- Secretaries' and Managers' Council, Sectional Meetings

Evening
- Buffet Supper and Entertainment

Monday

Morning
- Breakfast—Membership Committee
- Governing and Advisory Boards
- Ladies' Luncheon (Afternoon Tour of Greenfield Village and Edison Institute)

Afternoon
- General Convention Session

Tuesday

Morning
- Breakfast—Chapter Presidents
- General Convention Session

Afternoon
- Division Meetings: Building, Highway, Heavy and Railroad
- Joint Cooperative Committee of A.G.C. and American Association of State Highway Officials

Evening
- Reception, Dinner, Dancing

Wednesday

Morning
- Breakfast—Fathers and Sons
- General Convention Session
- Ladies' Luncheon at Grosse Pointe Yacht Club

Afternoon
- Division Meetings: Building, Highway, Heavy and Railroad

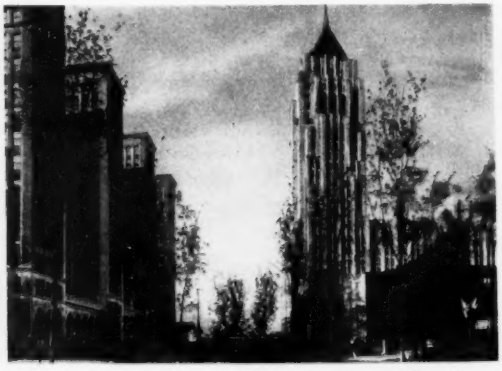
Thursday

Morning
- General Convention Session

Afternoon
- Governing and Advisory Boards

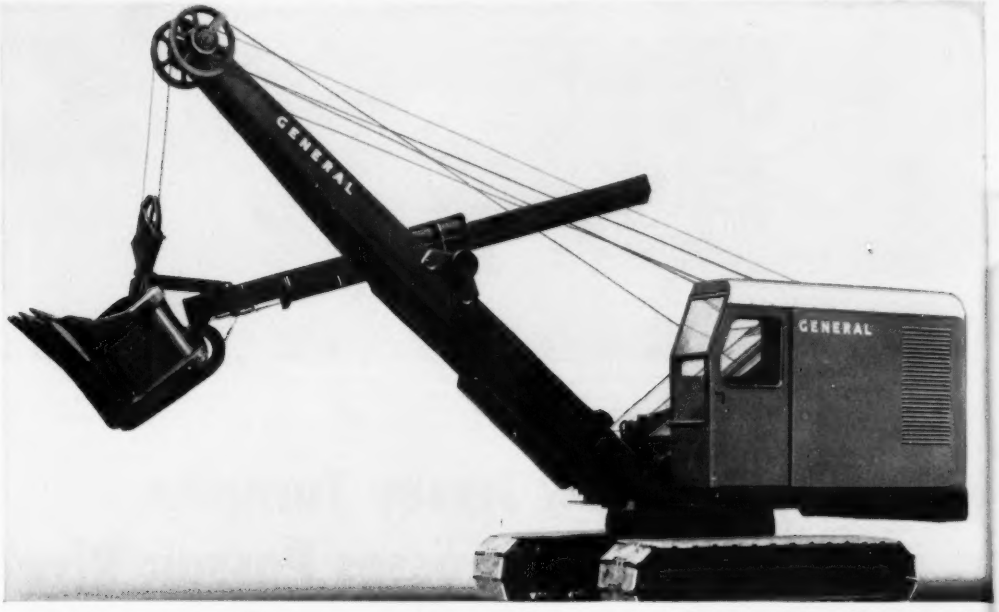
Evening
- Annual Banquet and Dance

Left is Clinton Inn in Ford's famous Greenfield Village.



Right are General Motors and Fisher buildings in Detroit.

GENERAL



Extra work-capacity of new ¾-yard shovel

SAVES YOU MONEY

GENERAL's new ¾-yd. Shovel Model 320 is specially engineered to save you money through extra work-capacity and longer service life. Every feature is built to reduce maintenance, cut down-time, and provide outstanding performance. Fewer points require adjustment or lubrication. Hook rollers, drums, and shafts are all mounted on anti-friction bearings sealed for life of machine. Oilless bushings are used for all lever connections. Locknuts guarantee safe, permanent fastenings. Simplified design assures permanent alignment of shafts and makes it easy to remove any shaft without disturbing adjacent assemblies. Conversion from Shovel to Dragline, Crane, Clamshell, or Hoe can be made quickly in the field without changing any major assemblies. Independent Travel, with two speeds forward and two reverse, is optional. Control is manual, with disc-type clutches (air control is available in ¾-yd. GENERAL Model 310). Choice of Diesel, gasoline, or electric power. Write today.

MEMBER PCSA

EQUIPMENT DESIGNED WITH YOUR PROFIT IN MIND

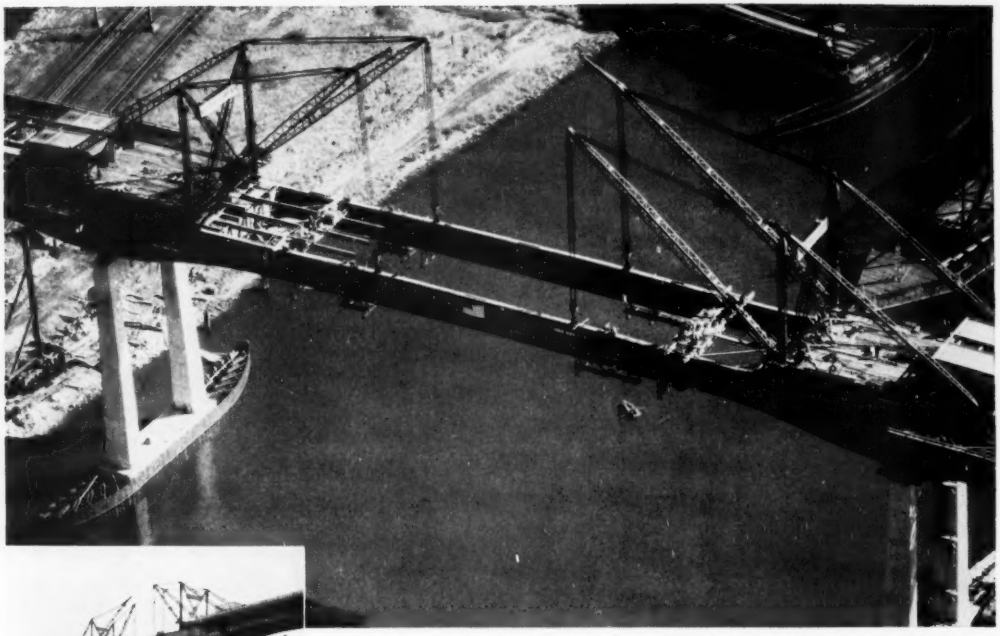
S127

The GENERAL EXCAVATOR CO.

MARION, OHIO

AFFILIATED WITH THE OSGOOD COMPANY

POWER SHOVELS, CRANES, DRAGLINES, CLAMSHELLS, PILE DRIVERS & HOES. CRAWLER, TRUCK OR WHEEL MOUNTED. DIESEL, GASOLINE OR ELECTRIC POWERED. CAPACITIES ½ TO 2½ CU. YD.



Aerial view of six-lane Passaic River Bridge, showing Bethlehem Steel crew fitting closing girders into place. *Owner:* New Jersey Turnpike Authority; *Chief Engineer:* Charles M. Noble; *Former Executive Director:* W. W. Wanamaker; *Consulting Engineers:* Ammann & Whitney, New York; *General Consulting Engineers:* Howard, Needles, Tammen & Bergendoff, New York.

Travelers on bridge deck, each equipped with two booms, shown raising twin 115-ft closing girders, having a combined weight of 292 tons.

One of four haunch girders, erected over main piers at night because of tide conditions. Girder is 130 ft long, 22 ft deep, weighs 173 tons.

New Jersey Turnpike Crosses Passaic River

Shown under construction, the giant Passaic River Bridge is an important link in the New Jersey Turnpike, the 118-mile limited-access high-speed highway traversing the state. The bridge crosses the river and twenty railroad tracks, and passes beneath the Pulaski Skyway. Over the river it has an under clearance of 110 ft from mean high water. Its approaches extend from a point south of Raymond Boulevard, in Newark, to approximately 800 ft beyond the Newark Turnpike, in Kearny.

The south approach superstructure for the Passaic River Bridge consists of nineteen simply-supported deck-girder spans for an overall length of 2,526 ft. The north approach superstructure has twenty-four similar spans, covering a distance of 3,055 ft.

The 1,365-ft main river portion of the bridge, also of the deck-girder type, consists of five spans. Here the three interior spans are continuous over four supports, with the two extremities cantilevered to carry the two end simply-supported suspended spans.

The Passaic River Bridge has two reinforced concrete roadways, each 36 ft wide, plus a central mall and safety walks. Its 7,000-ft length and 22,000-ton superstructure make it the largest of 24 Turnpike bridges for which Bethlehem fabricated and erected the steelwork.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM STEEL

FABRICATED STEEL CONSTRUCTION

A. G. C. Charters Presented to Maine and El Paso Chapters

Shown in the picture on the left are, left to right, front row, Paul Wyman, 3rd vice president of the A.G.C. of Maine; William J. Salter, president; Burt L. Knowles, national A.G.C. staff, Washington, D. C.; and Erik K. Sanders, secretary-treasurer. In the back row are Burleigh Martin, executive secretary; Donato Profenno, 1st vice president; and Leroy F. Hussey, chairman of the Governor's Council. In the picture on the right Burt L. Knowles presents the charter to President Salter, center, as Secretary-treasurer Sanders looks on.

» THE MAINE AND EL PASO, Tex., Chapters of the A.G.C. received their charters during ceremonies held in November, bringing the total number of the association's chapters and branches throughout the United States and Alaska to 117.

The charter meeting of the A.G.C. of Maine, Inc., was held Nov. 16 at the Augusta House in Augusta and attended by over 35 members and guests despite a heavy storm.

B. L. Knowles, engineer adviser of the national A.G.C. staff, Washington, D. C., formally presented the charter to William J. Salter of Stewart and Williams, Inc., Augusta, president of the chapter.

Mr. Knowles pointed out that the A.G.C. was started in 1918 with less than 100 contractors. Today, it has a membership of over 6,100 who do about 85% of the total volume of construction in this country. The A.G.C. now has chapters or branches in all states but Vermont, he stated.

Other officers of the chapter are Donato Profenno, Camillo Profenno Co., Portland, 1st vice president; Carl Cianchette, Cianchette Bros., Pittsfield, 2nd vice president; Paul Wyman, A. P. Wyman Co., Waterville, 3rd vice president; Erik K. Sanders, Sanders Construction Corp., Portland, secretary-treasurer; and Burleigh Martin, Augusta attorney, executive secretary.

Principal speaker at the meeting was Congressman Charles P. Nelson who outlined a program which he claimed was needed to bolster this country's dwindling supply of natural resources.

Representative Nelson advised that to replace our depleted supplies of minerals we must: 1. Appropriate money for the study and development of manganese deposits. 2. Provide funds for technological research to help save mineral reserves and develop new production processes. 3. Be truthful with other nations and pay them what their natural resources are worth, avoiding a policy of getting all we can and draining those lands dry. 4. Maintain an efficient merchant marine to import needed minerals. 5. Accelerate the stockpiling program, now far behind schedule.

He pointed out the United States is self-sufficient in only nine of 38 minerals.

Other speakers on the banquet program were Lucius D. Barrows, chief engineer of the Maine State Highway Department; and Leroy F. Hussey, chairman of the Governor's Council, who represented Governor Payne.

The A.G.C. of Maine is composed of highway, heavy and building contractors, 24 in number, who joined to form the chapter about two months before the charter meeting.

On the right are those who participated in the official charter presentation ceremony of the El Paso Chapter. Left to right are K. W. Braxton, chapter secretary; George A. Ponsford, treasurer; C. H. Leavell, vice president; B. L. Knowles, A.G.C. staff, Washington, D. C.; and J. F. Morgan, chapter member. **(See story on page 64)**

The El Paso Chapter on Nov. 27 became the 15th Texas Chapter to hold an A.G.C. charter.

Composed of 10 members at the outset, officials of the new chapter expect many additional members to join the organization in the near future. Besides the 10 building contractor firms, there are more than that number of material and equipment firms which hold associate memberships in the chapter.

On hand for the charter presentation ceremony, which was attended by more than 80 members and guests, was Burt L. Knowles, engineer-adviser of the national A.G.C. staff in Washington, D. C. Mr. Knowles presented the charter to C. H. Leavell, vice president of the chapter, in the absence of R. D. Lowman, president, who was ill and unable to attend. The treasurer is George Ponsford, and the secretary is K. W. Braxton.

Speakers on the program besides Mr. Knowles were Francis Morgan of J. E. Morgan & Sons; George Webber, vice president of the American Federation of Labor; Victor J. Von Schoeler, president of the El Paso Chapter of American Society of Civil Engineers; Louis Daeuble, Jr., president of the El Paso Chapter of the American Institute of Architects; Col. Henry J. Kelly, Fort Bliss, Corps of Engineers; C. M. Irvin and John Woelfel of the Artcraft Tile Co.

Member firms, all of which are located in El Paso, are: American Construction Co.; C. R. Bagwell; Banes Co., Inc.; C. H. Leavell & Co.; R. D. Lowman; Robert E. McKee, General Contractor, Inc.; J. E. Morgan & Sons; Normac, Inc.; Ponsford Bros.; and Prati & Prati.

El Paso Chapter Vice President C. H. Leavell receives the charter from B. L. Knowles who attended the ceremony on behalf of the national A.G.C. staff in Washington, D. C.

New Mexico Building Branch Elects Cooper

W. M. Cooper, Santa Fe, has been elected 1952 president of the New Mexico Building Branch, A.G.C.

More than 150 people from all fields of the construction industry attended the branch's annual banquet, Dec. 8, in Albuquerque.

Other new officers include John T. Testman, Albuquerque, vice-president; and O. G. Bradbury, Albuquerque, secretary-treasurer. Charles H. Lembke, Lembke Construction Co., Albuquerque, was elected director-at-large.

J. R. Brennand, of the office of R. E. McKee, General Contractor, Inc., Santa Fe, was elected director from District No. 2 for a 3-year term. John L. Rigsby, Las Cruces, and S. V. Patrick, Albuquerque, were both elected to fill unexpired 1-year terms as directors from District Nos. 4 and 1, respectively.

The organization's Labor-Management Committee, named at the same election meeting, consists of C. H. Arrington, Valley Building Co., Roswell; O. G. Bradbury, Albuquerque; J. R. Brennand, Santa Fe; R. B. Clough, Clough & King Construction Co., Albuquerque; Raymond Griggs, Clovis; K. L. House, K. L. House Construction Co., Albuquerque; Charles H. Lembke, Albuquerque; T. T. Mackie, Utah-Leavell Construction Co., Los Alamos; and C. R. Ramsey, Maxey & Leftwich, Albuquerque.

1952 officers of the New Mexico Building Branch, left to right: Charles H. Lembke, Albuquerque, director-at-large; O. G. Bradbury, Albuquerque, secretary-treasurer; John T. Testman, Albuquerque, vice president; and W. M. Cooper, Santa Fe, president.

Wisconsin Elects Johnson

Millard W. Johnson, of Johnson & Henrickson, Racine, was elected 1952 president of the Wisconsin Chapter at its Dec. 6-7 meeting in Milwaukee.

The new vice president is Orval J. Nelson, Peter Nelson & Son, Inc., La Crosse. J. Harry Green, Janesville, was re-elected manager and secretary-treasurer.

The chapter meeting was addressed by James W. Follin, chairman of the Construction Subcommittee of the Conservation Division, Defense Production Administration, Washington, D. C., and W. E. Dunn, of the national A.G.C. staff.

Mr. Follin asserted that, while there will be many difficulties in carrying out non-essential construction this year, there is no need for postponement of the planning and designing of new buildings which can go ahead immediately when shortages ease. He added that, while the materials situation is expected to ease, the copper shortage may keep the industry below its estimated goal for 1952.

Supply Now Larger

Actually, in spite of reports of shortages and scarcities of essential building materials, there is a more plentiful supply now than a year ago, he explained. But there is a greatly increased demand for that supply.

The new price regulation (CPR 93) was discussed by Mr. Dunn, who also reviewed current problems confronting the industry on a national scope, including governmental controls and labor relations.

the eyes have it!

SALINA HIGH SCHOOL, SALINA, KANSAS • JOSEPH W. RADOTINSKY, ARCHITECT • BAUMANN & BORDEN CONSTRUCTION CO., CONTRACTORS

...with CECO Metal Windows for Schools

As you read this your eyes are doing more than seeing—they are bringing into action your entire body—nerves, muscles, circulation.

And you are burning up energy—piling up fatigue in direct proportion to the amount of light available for vision. Medical science has proved eyestrain has a marked effect on the well-being of all. So it's necessary then that seeing be done with ease and in comfort. That's why proper illumination is all-important and there's where metal windows come in, for they admit more daylight than any other window.

Add to that fact, most days in most of the country are overcast in winter. Here again metal windows meet the need because only metal windows provide enough daylight for good vision on overcast days.

So there's good reason for the swing to Ceco Metal Windows in modern school construction. Besides giving more light for better sight, they permit distant vision so vital for relaxing young minds.

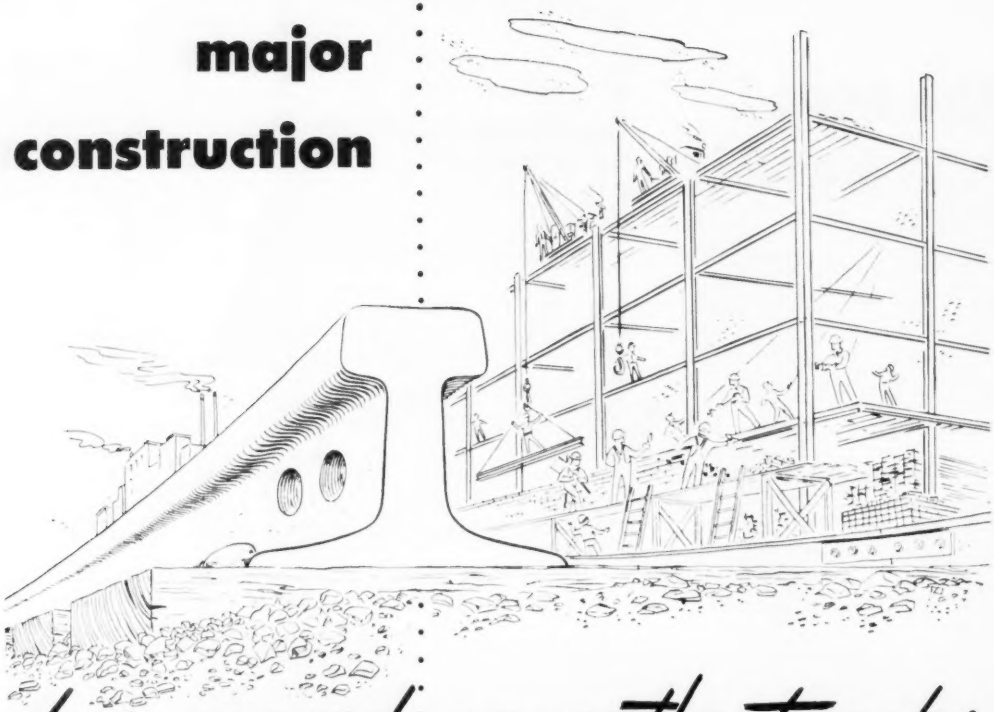
There are other advantages in Ceco Metal Windows—such as controlled ventilation—won't rot or warp—cost less to install, clean and maintain. And because Ceco Windows are better engineered they fit better—last longer. That's why we say—"When you use Ceco Windows you know you use the very best—you're sure of savings, too."

CECO STEEL PRODUCTS CORPORATION
General Offices: 5601 West 26th Street, Chicago 50, Illinois
Offices, warehouses and fabricating plants in principal cities

CECO STEEL

In construction products **CECO ENGINEERING** *makes the big difference*

major construction



has moved across the tracks

Under normal conditions — as a key fabricator of steel for virtually every structural purpose . . . from schools to skyscrapers, stadiums to storage tanks . . . from warehouses to places of worship — the first interest of International Steel is the growth of communities it serves.

But today's tense conditions have demanded drastic changeovers from normal production. New plants to speed national mobilization — new housing for combat aircraft — new structures for research — these represent the biggest "rush order" now to be filled by America's builders. Until completion of this prime contract, major construction — and a large percentage of International's productive capacity — are necessarily concentrated on the non-civilian "side of the tracks."

However, International still has — still fully recognizes — a responsibility to the civilian customers with whom it has grown. So whatever your steel building problems — look to International first. You'll find us always ready — ever willing — and usually able to help.

INTERNATIONAL Steel Co.

STRUCTURAL STEEL
INDUSTRIAL DOORS
REVOLVING DOORS
STEEL BUILDINGS

1906 EDGAR STREET
EVANSVILLE, INDIANA

Cal. Chapters Form Joint Labor Committee

• No. California Chapter Convention Stresses Affiliated Units

» ANNOUNCEMENT of a new 10-point labor relations program, which includes establishing a joint labor relations committee by the Northern and Central California Chapters, A.G.C., was made during the 33rd annual convention of the Northern California Chapter, San Francisco.

Cited by A. E. Holt, president of the chapter, as "one of the most important steps ever taken by the two chapters," the program will be carried on by a joint committee composed of five members from each chapter with Harold Ringrose as director.

Chapters Share Office Building

Already, the two chapters have jointly purchased a building to provide office space for both chapters and for the labor relations committee.

Mr. Holt stated that, as a result of this move, "The members will be served better, their individual problems will be handled more efficiently, and a more uniform labor policy will be established throughout the Northern California area."

Among convention speakers was Harry J. Kirk, national A.G.C. staff, Washington, D. C., who described dangers faced in unsafe contracting operations, stressing the seriousness of lawsuits which may result from accidents. Mr. Kirk advised members to maintain adequate insurance to cover all contingencies and recommended that management play a more active role in supervising safety programs on the job.

Winfield H. Arata, manager of the Northern California Chapter since 1945, reported a successful year and emphasized the chapter's progress in its army affiliation program.

The job of organizing five reserve construction units since 1947 was outlined by H. C. Maginn, chairman of the chapter's Military Affiliation Committee.

Unit commanders who addressed the Nov. 30-Dec. 1 convention were Col. C. C. MacClosky, 499th Engineer Aviation Brigade; Col. P. M. Guyer, 381st Engineer Maintenance & Supply Group; Lt. Col. Donald Morgan, 820th Engineer Aviation Battalion; Lt. Col. D. R. Tyson, 362nd Engineer Construction Group; and Capt. J. C. Dowdakin, 717th Engineer Heavy Equipment Company.

Warning of the dangers of a military culture, Dr. A. John Bartky, dean, School of Education, Stanford University, pointed to what he termed the "disregard" which the military had for individuals, citing the Nazi government as a prime example.

Labor relations in the state were discussed by John F. O'Connell, chairman of the chapter's Labor Committee, and Gardiner Johnson, chapter attorney.

Corps of Engineers' Program

Outlining the civil works program of the Corps of Engineers for the Sacramento, San Francisco, and Los Angeles Districts, Col. D. S. Burns, division engineer, South Pacific Division, stated that the program for 1952 would be relatively small, totaling about $38 million for all purposes.

Col. Burns stated that the military program would be approximately $300 million, most of which will be spent in California. Largest projects will be troop housing, mostly masonry, $72 million; warehousing and ammunition storage, $72.6 million; and water, sewer and power utilities, $40 million. Estimated quarterly awards are: last quarter, 1951, $50 million; 1st quarter, 1952, $180 million; 2nd quarter, $70 million; and after June, $5 million.

The method of advertising for competitive bids will be used uniformly during 1952. To avoid delay, some contracts were negotiated last year. "I know you prefer this method of award," he said, referring to competitive bidding, "and I can assure you that it is the method we propose to follow for next year's program."

The state's future construction plans were revealed by Frank B. Durkee, California's director of public works.

To Conserve Critical Materials

Durkee stated that shortages may retard some types of construction, but maintained that the state's long-range construction plans would not be materially affected. The Department of Public Works, he said, plans to start many projects using little controlled materials to off-set the more important projects which may be deferred by shortages.

Plans include $100 million worth of construction of schools and public buildings, to be started as part of the $71 million 1952-53 budget.

Re-elected chapter directors to serve during 1952 are: Ralph W. Brown, J. F. O'Connell, Charles L. Harney, A. E. Holt, H. C. Maginn, B. F. Modglin, Harold O. Parish, H. Earl Parker and Dallas Young.

Newly elected directors are: E. L. Clements, Ben Gerwick, Jr., Jack How, Gordon Pollock and J. E. Wilkinson.

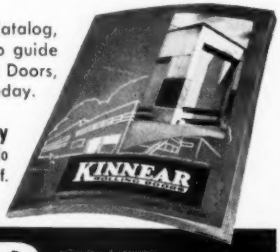
Left to right are: Military Affiliation Committee Chairman H. C. Maginn, Capt. John C. Dowdakin, Lt. Col. Donald Morgan, Lt. Col. D. R. Tyson, Col. S. S. MacClosky (behind speaker stand), Col. P. M. Guyer, Chapter President A. E. Holt, Vice President Harold Parish, National A.G.C. Staff Member Harry J. Kirk and Chapter Manager W. H. Arata. In the back row are Chapter Attorney Gardiner Johnson and Director J. F. O'Connell.

A 1 SERVICE ENTRANCES Opens night and day GOOD ANYTIME
KINNEAR . . .
"THE FINEST PERFORMANCE IN SERVICE DOORWAYS"
KINNEAR
featuring . . . KINNEAR STEEL ROLLING DOORS!

It's the EXTRA PERFORMANCE that counts! And it's easy to see why KINNEAR ROLLING DOORS *offer so much more* cost-cutting, time-saving performance for all types of service entrances. They open straight upward and coil into a small area above the doorway. As a result, all wall, floor and ceiling space around the opening is fully usable at all times. No areas need be reserved for door action. When open, the doors clear the entire doorway, completely out of the way . . . safe from damage by wind or vehicles. Available with Kinnear Motor Operator, offering push-button control at any number of convenient points.

Along with this EXTRA PERFORMANCE and convenience, you get a bonus of all-around protection! The strong, flexible KINNEAR-originated curtain of interlocking steel slats gives EXTRA protection against fire, wind, riot, intrusion and accidental damage . . . and it keeps maintenance at a minimum. Available with motor or manual control, KINNEAR Rolling Doors are *custom-built* to fit your special needs for EXTRA PERFORMANCE!

YOUR FREE COPY of the Kinnear Catalog, which includes complete information to guide you in the selection of Kinnear Rolling Doors, now available. Send for your copy today.



The KINNEAR Manufacturing Company
Factories: 650-680 Fields Ave., Columbus 16, Ohio
1742 Yosemite Avenue, San Francisco 24, Calif.
Offices and Agents in All Principal Cities

KINNEAR ROLLING DOORS *Saving Ways in Doorways*

Texas Branch Elects Newell

Vance Newell has been chosen by the directors of the Texas Highway Branch to succeed his father, the late Charles H. Newell, as secretary-manager.

Though born in Denver, Colo., Mr. Newell has spent most of his 37 years in Texas. He attended public schools in Dallas and in 1935, graduated from Yale University. He was on the editorial staff of *The Houston Chronicle* from 1935 until June, 1950, when he joined the Texas Highway Branch as his father's assistant.

During the war he spent three and one-half years with the Army Air Force, rising from private to first lieutenant. For four years after the war he served as wing intelligence officer of the 63rd Fighter Wing, Texas Air National Guard.

Obituary

William Mark List, 75, a founder of the A.G.C. of Missouri, died at St. Joseph's hospital, Kansas City, after a severe illness.

Mr. List, a railroad contractor, was formerly head of the List Construction Co., dissolved early this year, and a partner in several other contracting firms.

Orphaned at the age of eight, he took a $3-a-week job in a foundry. At the age of 17 he set out on his own as a grading contractor with three teams of horses. This venture failed, but by 1905 the firm of Walsh, List & Gifford was formed and superseded in 1911 by List & Gifford. The List Construction Co. was formed in 1924.

Among the large railroad construction jobs of the firm were a 75-mi. line for the Santa Fe from Paisano, Tex., to the Rio Grande river, and 22 mi. of double track for the Missouri and Pacific west of Washington, Mo. The firm's operations extended as far as Honduras in Central America.

In 1925 Mr. List assisted in founding the A.G.C. of Missouri and was president for the first two years. He was also a member of the Chamber of Commerce in Kansas City, the Kansas City Club and the Holy Name society of the Visitation Catholic church.

Surviving are his widow, Mary M. List, a daughter, Mrs. Anna M. Kilty, both of Kansas City; and a sister, Mrs. Abbellina Foltz, Bellevue, Ia.

Side-Step Trouble with these three "NO'S" in BARNES "33,000 for 1" PUMPS

NO SOFT SPOTS TO WEAR ON WATER SEAL

The two wearing parts on the Barnes Super Seal are hardened steel. You have steel on steel. There are no soft spots to wear. Since the grease seal is automatically lubricated, pump can be run dry without damage to either pump or seal.

NO RE-CIRCULATING CHAMBER TO CLOG

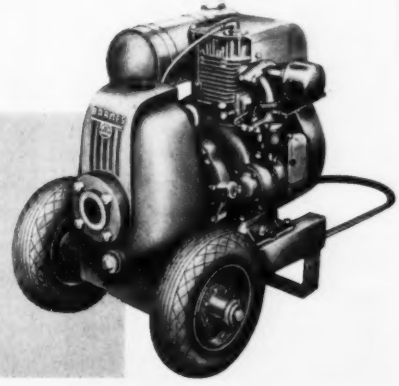
Barnes "33,000 for 1" Pumps do not have either a re-circulating chamber or port. Cement-water, stones, twigs, leaves and such will not clog the pump.

NO COSTLY REPAIRS TO KEEP PUMP VOLUME UP

Simple impeller adjustment takes up wear of impeller. It is simple and inexpensive to restore pump to its original capacity and performance of high vacuum readings of 25" of mercury and 27 to 28 foot-lift of water.

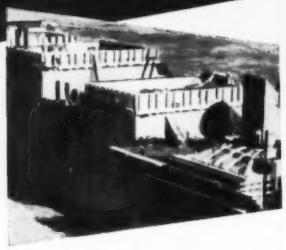
FOUNDED 1895
Barnes
MANUFACTURING CO.
MANSFIELD, OHIO

Complete Line From 4,000 to 90,000 G.P.H. Choice of Electric, Diesel, Gasoline, or Pulley Drive.



BUY THE BEST • • • BUY BARNES

BONDS—
for Contractors
FAST, COUNTRY-WIDE SERVICE

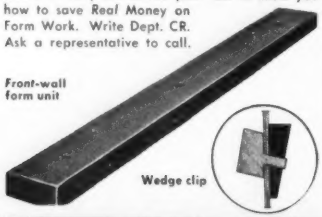


- BONDS—Bid and Performance
- Equipment Floaters
- Complete Casualty Insurance Requirements

American Surety Company
100 Broadway • New York 5, N. Y.
Agents and Brokers Everywhere

ATLAS
Beat
High Labor Costs with
SPEED FORMS

SPEED FORMS can be set up, stripped, cleaned, moved and reused in far less time than wood. Lightweight, easy to handle. No heavy bracing needed. No gadgets or special fastenings—Units go together with wedge clips.
Made of Steel—Good for reuse again and again on job after job indefinitely without repair. Reduce material costs way below wood—Many records of 400-500 and more uses.
Just send us plans of the job. Let us show you how to save *Real* Money on Form Work. Write Dept. CR. Ask a representative to call.



IRVINGTON FORM AND TANK CORP.
20 VESEY ST., NEW YORK 7, N. Y.

CHAPTERS AND BRANCHES

Merit Award Feature of Colorado Meeting

During the annual meeting of the Colorado Building Chapter, J. R. Howell, retiring president of the chapter, was presented the Bate-Petry Memorial Award which is given annually to the member who has performed the most worthy and outstanding service to the chapter. During Mr. Howell's two years as president, chapter membership increased by 29%.

New officers elected at the Dec. 4 meeting are Gerald H. Phipps, Platt Rogers, Inc., president; Nicholas R. Petry, N. G. Petry Construction Co., vice president; Keppel Brierly, J & K Construction Co., treasurer; and David A. Olson, Olson & Hart, secretary. W. S. Hibberd is secretary-manager.

The new officers, all located in Denver, are shown above. From left to right are Mr. Brierly, Mr. Petry, Mr. Phipps, and Mr. Olson.

New Executive Committee members are James T. Howell of James R. Howell & Co., and J. A. Schrepferman, Brown-Schrepferman & Co. Hold-over members are Harold B. Joy, Empire Construction Co.; James B. Kenney (own firm); and Harold T. Bate, Thomas Bate & Sons.

McKenzie Heads Texas Group

AT THE LARGEST annual meeting of the Municipal Contractors Association, A.G.C., general contractors were warned of the socialistic trends of the Federal government, advised of the details of the new price regulation on construction work, and informed on business and safety practices in their industry.

Pres. McKenzie

The warning came from two ex-Congressmen, Martin Dies, Jasper, Texas, and Ed Gossett, Dallas, who stated that inflation is bound to continue under the policies of deficit spending and vote buying which, they claimed, prevail today.

W. E. Dunn of the national A.G.C. staff, Washington, D. C., spoke to the December 2-3 Dallas meeting on current problems confronting the industry as viewed on a national scope. He analyzed situations resulting from recent controls on prices and materials, and developments in labor relations.

Other speakers included Col. Louis W. Prentiss, Southwestern Division Engineer, Corps of Engineers, who outlined the proposed military construction program for the Southwest; T. W. Mohle, Houston accountant, who reviewed the basic business principles followed in the construction industry; and S. W. Smalley, Jr., Earl W. Baker Co., Oklahoma City, who talked on the value of safety programs to general contractors.

Retiring President F. S. Oldt reviewed chapter accomplishments during the past year, and noted with pride the increase in membership from a nucleus of 6 in 1945 to its present size of 81 corporate members and 75 associate members. Mr. Oldt now is a national director of District 4 from the State of Texas.

A. J. McKenzie, Jr., McKenzie Construction Co., San Antonio, was elected president of the local association. New vice president is L. H. Durst, Brown & Root, Inc., Houston; and the new secretary is R. D. Whittle, Whittle Construction Co., Dallas. Continuing as managing director is R. M. Dixon.

STANDARD FORMS

COVERING IMPORTANT CONTRACTING PROCEDURE

Prepared by The Associated General Contractors of America and Cooperating Bodies

Order No.	MANUALS	Per Copy	Per Dozen	Per 100
1.	A.G.C. Manual ..... (Contains documents listed below: Nos. 3-30, inclusive, and Nos. 34, 35, 36, 36a, 37, 38)	$5.00	$50.00	.....
2.	Accident Prevention Manual (Revised and enlarged 1949)	3.00	30.00	$210.00
	CONTRACTS			
3.	Standard Contract for Engineering Construction issued by the Joint Conference on Standard Construction Contracts.....	.25	2.75	20.00
4.	Standard Building Contract of the American Institute of Architects—Revised 6th Edition	.50		47.50
5.	Subcontract form—American Institute of Architects—Revised 5th Edition.....	.10		9.50
7.	Standard Government Contract.....	.10	.50	4.00
8.	A.G.C. Cost Plus a Fee Contract.....	.10	.50	2.50
9.	A.I.A. Cost Plus a Fee Agreement between Contractor and Owner—Revised 6th Edition	.10		
11.	Equipment Rental Agreement.....	.10	.50	3.00
12.	A.G.C. Proposal Form.....	.10	.50	3.00
	ESTIMATING AND ACCOUNTING			
16.	Building Estimate Summary.....	.10	.50	3.00
17.	Job Overhead Summary.....	.10	.50	3.00
20.	Contractors' Equipment Ownership Expense (Itemized tables of ownership expense elements with instructions for application. Revised 1949).....	1.00	10.00	65.00
21.	Equipment Record—Bond paper.....	.10	.50	3.00
22.	Equipment Record—Cardboard	.10	.50	3.50
	INVESTIGATION OF BIDDERS			
24.	Standard Pre-Qualification Questionnaires and Financial Statements for Prospective Bidders—Complete in Cover Engineering Construction (For Qualifying Before Bidding).....	.20	1.80	12.00
25.	Standard Pre-Qualification Questionnaires and Financial Statements for Prospective Bidders—Complete in Cover. Building Construction (For Qualifying Before Bidding)	.20	1.80	12.00

Order No.	INVESTIGATION OF BIDDERS (Continued)	Per Copy	Per Dozen	Per 100
26.	Standard Questionnaires and Financial Statement for Bidders—Complete in Cover. Engineering Construction (For Qualifying After Bidding)	.20	$1.80	$12.00
27.	Standard Questionnaires and Financial Statement for Bidders—Complete in Cover. Building Construction (For Qualifying After Bidding)	.20	1.80	12.00
28.	Financial Statement and Questionnaire for Credit Transactions	.20	1.80	12.00
	MISCELLANEOUS			
29.	Insurance Check List.....	.10	1.00	5.00
30.	The Functions of a General Contractor...	.10	.75	6.00
34.	A.G.C. Governing Provisions.....	.10	.50	3.00
35.	A.G.C. Code of Ethical Conduct.....	.10	.50	3.00
36.	Concrete Mixer Standards.....	Single copies — no charge; quantity prices on application.		
36a.	Contractors' Pump Standards.....			
37.	A.I.A. Standard Form of Arbitration Procedure			
38.	Suggested Guide to Bidding Procedure...			

FOR A.G.C. MEMBERS ONLY

A.G.C. EMBLEM

List of Styles and Prices on request.

SIGNS AND SEALS

39.	A.G.C. Cardboard Seal (red and black) 24" dia.	.50
40.	A.G.C. Metal Seal (red and black) 10" dia.	.40
41.	A.G.C. Decalcomania Seal (red and black) a. 10" dia.	.20
	b. 5" dia.	.10

Metal Seals and Decals: 20% discount for orders of more than 50; 40% discount for orders of 200 or more.

43. A.G.C. SOCIAL SECURITY FORMS

Form SS1: Application for Employment; Form SS2: Employees' History Record; Form SS3: Employees' Employment and Earnings; Form SS4: Payroll. List of prices and styles will be furnished to A.G.C. members on request.

USE THE CONVENIENT COUPON TO PLACE YOUR ORDER

Order No.	Amount	Cost
1.		
2.		
3.		
4.		
5.		
7.		
8.		
9.		
11.		
12.		
16.		
17.		
20.		
21.		
22.		
24.		
25.		
26.		
27.		
28.		
29.		
30.		
34.		
35.		
36.		
36a.		
37.		
38.		
39.		
40.		
41a.		
41b.		

43. Price List and Samples ☐

Price List and Styles of Emblem ☐

TOTAL COST .....

Make Checks payable to CONSTRUCTION FOUNDATION, A.G.C., Munsey Building, Washington 4, D. C.

Gentlemen: Enclosed find check for $..... for which please send materials as ordered by number herewith.

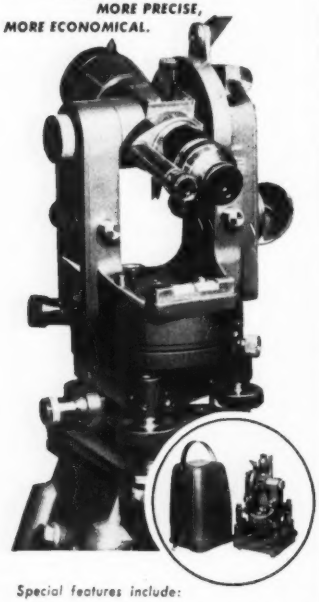
Name..... *Address*.....

City..... *Zone*..... *State*.....

Jan. 1952

The FILOTECNICA
6" OPTICAL
TRANSIT-THEODOLITE

The newest and most modern instrument for surveyors and engineers.
Its special innovations combine to make instrument operation
MORE RAPID,
MORE PRECISE,
MORE ECONOMICAL.



Special features include:

OPTICAL PLUMMET—eliminates plumb bob.

OPTICAL READING SYSTEM—vertical and horizontal readings taken at a glance to 6" thru microscope eyepiece next to telescope.

REPEATING LEVER—speeds repetitions, prevents errors.

FULL "BEHIND INSTRUMENT" OPERATION—all operations controlled from operator's position behind instrument.

F/S Model 4150 R weighs only 9 lbs. 14 oz.—stands 10" high. Complete with adjustable-leg tripod and aluminum alloy carrying case, $650.

Full service and repair facilities available.

TRANS-GLOBAL COMPANY
1480 Broadway, New York 18, N. Y.
AMERICAN DISTRIBUTORS FOR—

FILOTECNICA
SALMOIRAGHI
S.P.A. Milan

A.G.C. Branch and Chapter Meetings

A monthly cumulative list of annual meetings scheduled by chapters and branches of The Associated General Contractors of America, as reported to THE CONSTRUCTOR:

Jan. 10, 1952. SAN DIEGO CHAPTER. San Diego. El Cortez Hotel.

Jan. 10-11, 1952. KANSAS CONTRACTORS ASSOC. Kansas City. President Hotel.

Jan. 10-11-12, 1952. A.G.C. OF MINNESOTA. St. Paul. St. Paul Hotel.

Jan. 11-12, 1952. MONTANA CONTRACTORS' ASSOC., INC. Missoula. Florence Hotel.

Jan. 11-12, 1952. MONTANA BUILDING CHAPTER. Missoula. Florence Hotel.

Jan. 11-12, 1952. INTERMOUNTAIN BRANCH. Salt Lake City. Hotel Utah.

Jan. 13-14, 1952. NEBRASKA BUILDING CHAPTER. Lincoln. Hotel Cornhusker.

Jan. 14, 1952. PORTLAND CHAPTER. Portland. Chapter quarters.

Jan. 14-15, 1952. VIRGINIA BRANCH. Richmond. Hotel John Marshall.

Jan. 15, 1952. PHILADELPHIA CHAPTER. Philadelphia. Barclay Hotel.

Jan. 16, 1952. LOUISVILLE CHAPTER. Louisville. (Not selected.)

Jan. 18, 1952. ALABAMA BRANCH. Birmingham. Tutwiler Hotel.

Jan. 18-19, 1952. MILWAUKEE CHAPTER. Milwaukee. Schroeder Hotel.

Jan. 19, 1952. A.G.C. OF WEST VIRGINIA. Charleston. Daniel Boone Hotel.

Jan. 19, 1952. OKLAHOMA BUILDERS CHAPTER. Oklahoma. Skirvin Hotel.

Jan. 22-23, 1952. A.G.C. OF MISSOURI. St. Louis. Statler Hotel.

Jan. 23, 1952. DETROIT CHAPTER. Detroit. Detroit Athletic Club.

Jan. 24, 1952. IDAHO BRANCH. Boise. Hotel Boise.

Jan. 25, 1952. CENTRAL CALIFORNIA CHAPTER. San Francisco. St. Francis Hotel.

Jan. 25-26, 1952. COLORADO CONTRACTORS ASSOC., INC. Denver. Shirley-Savoy Hotel.

Jan. 26. MISSISSIPPI VALLEY FLOOD CONTROL BRANCH. Memphis. Hotel Peabody.

Feb. 1, 1952. CONSTRUCTORS ASSOC. OF WESTERN PENNA. Pittsburgh. Hotel William Penn.

Feb. 9, 1952. KENTUCKY HIGHWAY DIVISION. Louisville. Kentucky Hotel.

Feb. 28, 1952. RHODE ISLAND CHAPTER. Providence. (Not selected.)

Mar. 1952. CINCINNATI CHAPTER. Cincinnati. Cincinnati Club.

Mar. 12, 1952. HOUSTON CHAPTER. Houston. Ben Milam Hotel.

Apr. 2-3, 1952. MICHIGAN ROAD BUILDERS ASSOC. Detroit. Hotel Statler.

Tentative Dates

Jan. 10, 1952. BALTIMORE BUILDERS CHAPTER. Baltimore. Park Plaza Hotel.

Jan. 25, 1952. SOUTHERN CALIFORNIA CHAPTER. Los Angeles. Biltmore Hotel.

Feb. 1952. CLEVELAND CHAPTER. Cleveland. (Not selected.)

Mar. 1952. METROPOLITAN BUILDERS ASSOC. OF NEW YORK CITY. New York City. University Club.

June 17, 1952. TEXAS HIGHWAY BRANCH. Austin. Austin Hotel.

BLADES For Snow and Ice Removal

FOR ALL MAKES AND MODELS OF SNOW PLOWS

Made of specially developed steel to withstand severe service conditions.

Various widths, lengths, thicknesses--flat or curved--standard or special--punched ready to fit your machine.

SHUNK SAW-TOOTH ICE BLADE

Amazingly effective. Thoroughly breaks up and removes heavy, slippery ice and snow formations. Replaces all types of snow plow blades or maintenance units. Write for Bulletin and name of nearest Distributor.

ALLIED

Shunk
MANUFACTURING COMPANY
ESTABLISHED 1854
BUCYRUS, OHIO

Support of A.G.C. Safety Program Urged

• President Maxon Cites 1950 Construction Accident Record

» CITING the 2,300 deaths and 205,000 injuries in the construction industry during 1950, Glen W. Maxon, Dayton, president of The Associated General Contractors of America, urged general contractors to participate in the association's accident prevention program.

"It has been proven many times," stated Mr. Maxon in a letter to the presidents of the 118 chapters and branches of the association, "that these (accident prevention) measures are not an expense, but are an investment that pays dividends."

Mr. Maxon pointed out that the construction industry's accident record of 93 deaths per 100,000 workers was far in excess of the average of 27 per 100,000 for all other industries. Only the mining industry with 110 deaths per 100,000 had a poorer record than the construction industry.

"Our industry had the highest number of total injuries per 100,000 workers, a total of 8,300, with the average for all industries being 3,600. Our frequency rate for disabling injuries is double the average of all industries," he commented.

Government Control Threatens

"In view of the increasing tendency towards government regulation of our economy," he warned, "we will, unless we improve our safety record, most certainly be confronted with compulsory laws requiring the observance of hampering and costly accident prevention methods."

The A.G.C. accident prevention program emphasizes the advantages which can be gained by members through cooperative participation in the filing of accident reports which will provide a body of information helpful to the whole industry. These reports are also used to determine annual awards to contractors whose accident records are outstanding.

Managements' Interest Needed

In conclusion Mr. Maxon stated, "Above all, it is important that you, both as a contractor and as president of your chapter, display an active interest. This means more than hiring a safety engineer, or drafting a safety program on paper—it means proving to your employees, your insurance carriers, and others of management that your safety program is a live, functioning operation. I can assure you from personal experience that it will mean money in your pocket."

Aetna Producing 3rd Film in Safety Series

Production on a new safety movie outlining good housekeeping practices in the construction industry was started recently by the Aetna Casualty and Surety Co.

Entitled "Good Housekeeping—For Men Only", the new film will illustrate how orderliness on the job can improve working conditions, prevent accidents and help maintain schedules.

First scenes for the motion picture, which will be produced in full color, were filmed in Providence, R. I., at the $3.7 million Manton Heights housing project now being constructed by the Gilbane Building Co., A.G.C., of Providence.

The movie, scheduled for release in 1952, will be the third in a series produced in recent years by the Aetna Co. on safety precautions in the construction industry. The other films are "Before the Blast," dealing with the handling of commercial high explosives, and "Ladders, Scaffolds and Floor Openings."

Pictured above, left to right, are: Cameramen Arthur Garatti and Richard Schuddekopf; Fred Riebel, supervisor of Aetna's motion picture bureau; Thomas and William Gilbane of the Gilbane Building Co.; and Fred Bartcherer, superintendent for the construction firm.

Indirect Cost of Accidents

The accident: A buffooning employee distracted the attention of his fellow workman while the latter was hoisting a kettle of hot tar for a roofing job. The kettle and outrigger fell, causing second degree burns to both employees.

Direct cost: $180 for compensation and medical aid.

Proximate results: The falling outrigger struck the overhead protection of the hoist operator, startling him and causing him to lose control of the hoist which crashed into the two outside legs of the tower, causing the tower to collapse. Several pieces of marble statuary near the hoisting platform were damaged. The job was delayed. The tower had to be rebuilt.

Indirect cost: $4,000 out of the contractor's pocket.

Prevention: Keep employees aware of the need for safe practices at all times.

Study Trowel Trade Injuries

An analysis of 527 lost-time accidents to plasterers and 163 lost-time accidents to bricklayers, made by the California Division of Labor Statistics and Research, Department of Industrial Relations, is another constructive step toward reducing accidents in the construction industry.

Made in cooperation with the U. S. Bureau of Labor Statistics, the report shows that eye injuries were the major lost-time injuries to plasterers and that major injuries to bricklayers were to the hands and fingers.

Nearly one-third of all plasterers' injuries reported were caused by burns from lime, plaster, and stucco, and nearly as many were from strains and sprains. Strains and sprains were the most frequent type of injuries to bricklayers, causing more than 37% of the total.

Operational analysis shows that 64% of the injuries to plasterers occurred during the use of hand tools or equipment (more than half of the plasterers disabled were using trowels at the time of the accident). Injuries while plasterers were walking, stepping or climbing comprised more than 11% of the total, and the remainder occurred while plasters were lifting or carrying objects.

Half of the injuries to bricklayers occurred while they were lifting, carrying or placing objects, and 23% occurred during the use of hand tools.

An occupational breakdown of the accidents shows that of the 527 injuries to plasters, 86% were sustained by journeymen, 6% by apprentices, 5% by helpers, and 3% by foremen and superintendents. Of the 163 injuries to bricklayers, 65% were to journeymen, 30% to helpers, and 2% each to apprentices and foremen. (An analysis of injuries to carpenters in California was carried in the November CONSTRUCTOR, page 67.)

Safety Meeting In Carolina

South Carolina's 14th annual accident prevention conference, held recently in Columbia, was attended by 1,200 delegates. The meeting's construction section was sponsored by the Carolinas Branch, A.G.C.

Contractors were urged to consider monetary profit as well as savings in lives and injuries which can result from a well-planned accident prevention program in a speech given by Beaumert Whitton, Southeastern Construction Co., A.G.C., Charlotte, N. C.

H. W. Richardson, New York, editor of *Construction Methods and Equipment*, warned that unless management assumes responsibility for safety programs, construction "will be hamstrung by so many laws, codes and safety specifications that you won't be able to operate in your own free way."

A 10-hour course in supervisory training tailored for the construction industry was outlined by A. P. McIntosh, safety consultant for the Florida Industrial Commission. J. R. Callaway, supervisor of publicity and education, described the safety program used by his firm, DuPont, at the Savannah River project.

The Bettmann Archive

The Reluctant
KING JOHN Sanctioning
the SURETY INDUSTRY

At Runnymede, on June 15, 1215, twenty-five English barons assembled to witness King John sign the historic Magna Carta.

The Magna Carta provided for the freedom of the oppressed and created the principles of suretyship. It guaranteed the observance of the Charter by King John, who bound himself to uphold the reforms granted by the Charter and proposed that a group of twenty-five barons be selected as sureties to watch performance of his obligations, authorizing them to redress through recourse to his property as security in the event of his default.

The collective Frankpledge has long since been abandoned, but the principle of relying on one person as a pledge for the performance of another was preserved and has been carried through in basic degree into the principles of modern corporate suretyship.

Phœnix-London
GROUP
55 FIFTH AVENUE · NEW YORK

Standard protection

PHŒNIX ASSURANCE CO., Ltd.
IMPERIAL ASSURANCE COMPANY
COLUMBIA INSURANCE COMPANY
UNITED FIREMEN'S INSURANCE CO.
THE UNION MARINE & GENERAL INSURANCE CO., Ltd.
LONDON GUARANTEE & ACCIDENT CO., Ltd.
PHŒNIX INDEMNITY COMPANY

McKIERNAN-TERRY PILE HAMMERS

Help Beat Schedule

on sewer project

Eight months ahead of schedule! That was the record chalked up on this Oakland outfall sewer line, despite wet heaving ground that required sheeting of trench every inch of the way. An ingenious mobile sheeting jig and fast-driving McKiernan-Terry Pile Hammers solved the problem.

Here's how. The jig held lagging for 20 lin ft of timber sheeting on both sides of the trench at the same time. Sheeting was driven quickly by McKiernan-Terry No. 6.5 Double-Acting Hammers . . . as much as 245 pieces of sheeting daily.

Wherever you need speed and pile-driving power, it will pay you to use dependable McKiernan-Terry equipment. Wide-range line includes 16 sizes of single-acting and double-acting hammers and 2 sizes of double-acting extractors. Write for bulletin.

McKiernan-Terry Pile Hammer punches down timber sheeting for fast sewer job in Oakland, Calif. Ben C. Gerwick Inc. and George C. Pollock Co. were the joint contractors.

McKIERNAN TERRY

McKIERNAN-TERRY CORPORATION • MANUFACTURING ENGINEERS
18 PARK ROW, NEW YORK 38, N. Y.
Plants: Harrison, N. J., and Dover, N. J.

MK-308

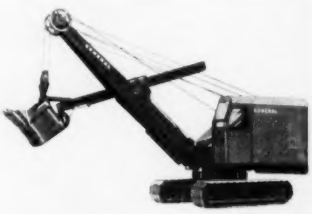
Scraper—*Caterpillar Tractor Co., Peoria 8, Ill.* No. 90 scraper, for use with D8 tractor, has 40 per cent more struck capacity than previous models. Struck capacity of 21.2 cu. yds. can be increased to 25.5 cu. yds. with addition of top extensions or sideboards. Heaped capacity is 27 cu. yds., or 31 cu. yds. with available sideboards. Scraper moves dirt with aid of hard-surfaced, reversible cutting edge. Material is carried in flat, double-bottom bowl of high-tensile steel. Operation is by Caterpillar cable control unit which can be mounted on rear of tractor to provide for positive loading and ejection. Tapered roller bearings are installed at each axle. Scraper uses 2 24.00-29 front tires and 2 27.00-33 rear tires, all of 24-ply rating. When loaded, scraper distributes 60 per cent of weight on rear tires.

Caterpillar No. 90 scraper

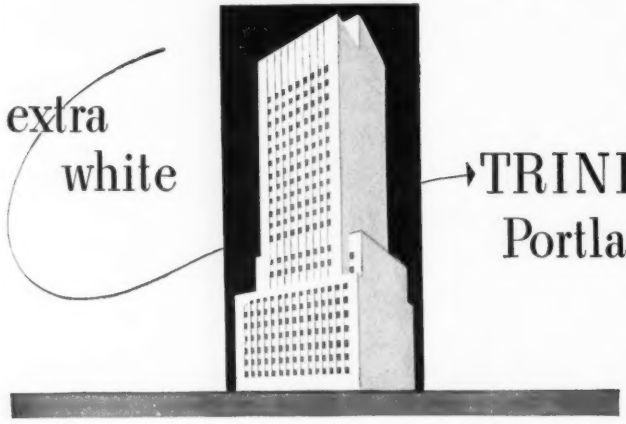
Dry Wall Construction—*Richkraft Co., 228 N. LaSalle St., Chicago 1.* New metal corner protection, known as "Richbead," for use in dry wall construction, gives protection of metal to inside and outside corners. It consists of metal angle glued to joint tape. It comes in 8′ lengths, with selection of 1½″ and 5⁄8″ sizes. It is placed by using same cement as for taping wallboard joints.

Tire—*The B. F. Goodrich Co., Akron, Ohio.* New tire is designed for graders operating where there is considerable rock or other tough conditions. Made for semi-drop center rims, tire fits rim size 800 T, has cross section 13.2″ wide with outside diameter of 50.8″, maximum rated load of 6,600 lbs. when inflated to 50 lbs. pressure and makes 426 revolutions per mile.

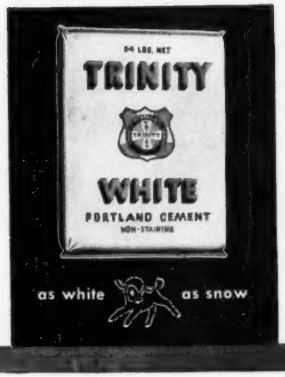
Excavator—*General Excavator Co., Marion, Ohio.* Model 320 is ¾-cu. yd. excavator and material handler. Crawler base, machinery side frames and deck are made of castings and rolled structural steel shapes. Machinery mounted on superstructure is placed well back on deck. Ground bearing pressures are low. Machine is fully convertible to shovel, clamshell, crane, pile driver, dragline and hoe work. Standard shovel boom length is 18′8″, with dipper handle of 15′3″ effective length. Standard crane boom length is 35′.



General Model 320



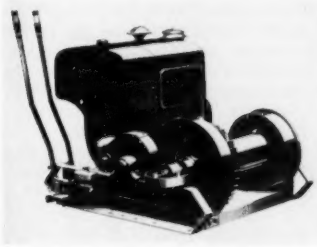
For fine results use Trinity—the *whitest* white cement. A true portland cement that meets Federal and ASTM specifications. Use it wherever white cement is called for—in architectural concrete units, terrazzo, paint, stucco and all light-reflective uses. Gives purer colors when pigments are added. Standardize on Trinity White for appearance and satisfaction. Trinity Division, General Portland Cement Co., 111 W. Monroe St., Chicago; Republic Bank Bldg., Dallas; 816 W. 5th St., Los Angeles.



TRINITY WHITE is a *true* Portland Cement

Standard length of crawler is 11′4″, with 20″, 25″ or 30″ treads available. Machine is manually controlled. Twin Disc clutches are used for swing and travel motions, for raising and lowering boom and for shovel retract. Contracting band clutches are used on hoist drums. Independent travel is optional.

Hoist—*King Manufacturing Corp., 3146 W. Chicago Ave., Chicago 22.* New series of hoists feature hydraulic control. Model 2500-H has capacity of 6,000 lbs. at 100 f.p.m. It is powered by 25 h.p. Wisconsin gasoline engine. Model 1300-H has capacity of 3,000 lbs. at 100 f.p.m. and is powered by 13 h.p. Wisconsin gasoline engine. Over-size hydraulically operated clutch controls hoisting. External contracting 3″ band brakes and automatic safety ratchets in conjunction with brake are standard equipment. Anti-friction ball and roller bearings are standard. Multiple drum units are available at additional cost. Gasoline, electric and diesel power units can be used. Hoisting frames can be purchased separately.



King hydraulic-control hoist

Flooring—*H. G. Macdonald Co., 134 Railroad Ave., Monrovia, Calif.* "Medley Block" is new type of parquet made of selected hardwood bonded to 30-lb asphalt-impregnated felt membrane. It is laid in conventional manner with cold mastic. Designed to be laid on concrete slab and plywood subfloor construction, block is flexible in both directions, allowing it to go down firmly over minor imperfections in subfloor. Flexibility is provided by two or more pieces being used in each strip. Tongues and grooves have been eliminated around outside edges of blocks so that there are no right and left hand blocks. Blocks are manufactured in 2 sizes, 10″ x 10″ x 5/16″ and 9″ x 9″ x 13/16″.

How NAYLOR gives you EXTRA STRENGTH in Light-weight Pipe

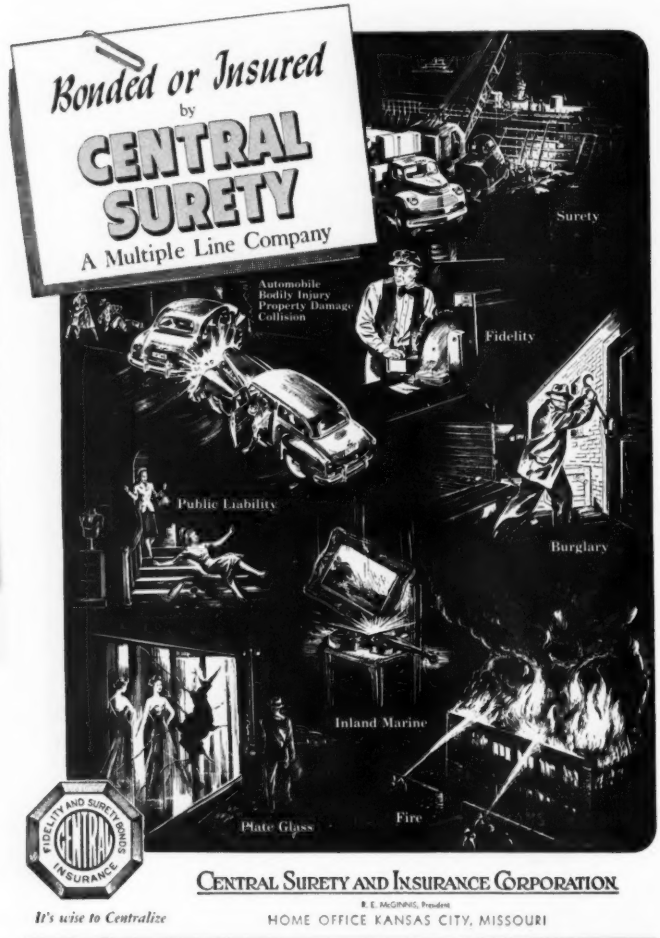
If you want to know why Naylor pipe out-performs other light-weight pipe on construction jobs, here is just one of the reasons. If you could look inside Naylor's distinctive spiral, you would see the lockseam spiralweld structure which extends in spiral form throughout the length of the pipe. This spiralwelded truss provides greater structural strength —under pressure, compression, collapse, and beam load than any other iron or steel pipe of the same nominal wall thickness. That's why you can use Naylor Pipe on jobs normally requiring heavier-wall pipe. Write for Bulletin No. 507.

NAYLOR PIPE

Naylor Pipe Company
1230 E. 92nd St., Chicago 19, Ill.
New York Office:
350 Madison Ave., New York 17, N.Y.

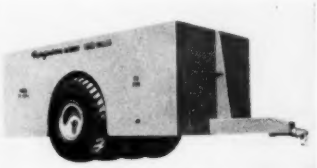
Crushers—*Smith Engineering Works, Milwaukee.* "Telsmith" portable primary crushers are offered in 3 sizes. Crusher consists of heavy steel receiving hopper with special duty apron type feeder, heavy-duty roller-bearing all-steel jaw crusher with cast steel frame and swinging jaw, steel operator's platform with controls, delivery conveyor and power unit with V-belt drive, all mounted on steel chassis. Front axle with towing pole or king pin for tractor-truck hauling can be furnished. Plant can be furnished with or without grizzly between feeder and crusher.

Flooring—*Armstrong Cork Co., Lancaster, Pa.* Utility flooring for use in industrial areas, barracks, etc., is elastomeric or rubber-like coating on base of asphalt-saturated felt. Called "Accotred," it is manufactured only in red in 36" and 72" widths. It is highly resistant to solvents and grease. A new cement, "Accotred Cement No. S-201," has been developed for installation of "Accotred" on grade-level concrete floors, while Armstrong's No. S-128 is recommended adhesive for installation on suspended floors. "Accotred" is not recommended for installation below grade.



Hole Saws—*Millers Falls Co., Greenfield, Mass.* "Blu-Mol" high-speed, follow-through type hole saws are offered in sizes from $\frac{5}{8}$" to $4\frac{1}{2}$" diameter. Holes to depth of $1\frac{1}{8}$" may be cut in solid stock. Because body of saw is slightly smaller than cutting diameter, complete tool follows through hole it cuts, permitting cuts through 2 or more walls or through both sides of large pipes. Saws can be used in portable power drills with $\frac{1}{4}$" chuck for smaller sizes, $\frac{1}{2}$" or larger for bigger saws, or they may be used in radial drills, lathes, drill presses, etc.

Roller—*Shovel Supply Co., Box 1369, Dallas.* Model RT-100S 50-ton rubber-tired roller is equipped with 4 18:00 x 24" heavy-duty tires. When tires are inflated to 90 lbs. roller exerts 1,250 lbs. pressure per inch of tire width or 25,000 lbs. per wheel. Rollers are furnished for either sand or cast-iron ballast.



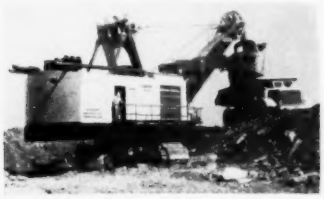
Shovel Supply Co.'s Model RT-100S

Hoist—*Coffing Hoist Co., 800 Walter St., Danville, Ill.* "Challenger" spur-gear hoist is offered in $\frac{1}{2}$- and 1-ton capacities. Unit, including standard length of high-strength coil chain for 8' lift, weighs $39\frac{1}{2}$ lbs. Formed steel plate is used in housing, and back plate is laminated to give extra rigidity for supporting hoist mechanism. It may be disassembled quickly with simple tools for easy servicing. It is sealed and running in lubricant.

Rippers—*Preco Inc., 6300 E. Slauson Ave., Los Angeles 22.* "Back-Rippers" mount on back of bulldozer

moldboards and rip only when tractor backs up. Four housings are welded to under side of "C" frame on angling blade bulldozers, permitting use irrespective of angle of blade. Teeth float on top of ground when tractor moves forward and automatically dig and rip when tractor backs up. Teeth can be locked up out of way.

Shovel—*Marion Power Shovel Co., Marion, Ohio.* Model 191-M is 10 cu. yd. machine designed for use with truck haulage units in 50-ton class. It is basically full electric machine with Ward-Leonard controls. High voltage line current is converted into direct current for powering operating motors. Separate motors and generators operate hoist, crowd and swing motions. For use in areas where electric power is not available, it can be furnished as diesel-electric machine with diesel engines driving DC generators. Lower frame is formed of heavy steel plate welded into deep bulkhead structure. Crawler side frames are attached to frame structure by bolts and heavy key-type doweled joints. Propel mechanism is fully enclosed and is hydraulically controlled. Crawler shoes are of manganese steel and crawler belts are driven by dirt-shedding sprockets. Upper frame is deep, welded structure with machinery supports welded integral with frame. Two matching 187½ h.p. 600 line motors, with blowers, operate hoist machinery and, through use of clutches, drive propel mechanism. Twin swing motors of 62½ h.p. are also equipped with blowers. Another 62½ h.p. motor mounted on boom provides power for crowding and crowd retract.



Marion diesel-electric 191-M

PRESTRESSED CONCRETE

A rational method of construction for elevated express highways, heavy underpasses, underground garages, containers and ducts carrying liquids.

L. COFF, *Consulting Engineer*, 198 Broadway, New York 7, N. Y., Cortland 7-2753

FLEXO-SCREENS

PROVIDE EXCELLENT IDENTIFICATION FOR YOUR EQUIPMENT

You are always sure of the finest identification with genuine FLEXO-SCREENS and so easy to apply—no experience or skill needed.

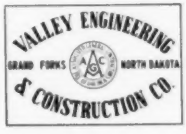
By simply placing a little of the enamel on screen and drawing applicator across it you get a perfect impression.

Screen fits door curves and flat surfaces with equal perfection.

Hundreds of applications of fine, yet durable lettering in weather-proof enamel that defies the elements. WILL NOT CRACK, CHIP, PEEL or FADE. LASTS FOR YEARS.

If you are economy-minded, yet like the finest identification, you will appreciate the merits of the FLEXO-SCREEN.

Shown below are miniature reproductions of customers designs as applied on equipment with FLEXO-SCREENS



For full details write

EQUIPMENT IDENTIFICATION CO.

515 Peoples Bank Bldg. **Indianapolis 4, Ind.**

HOW TO HANDLE WET JOBS

#1 of a series

NASSAU COUNTY
INTERCEPTOR SEWER

Contractor: Hendrickson Bros.
Valley Stream, N. Y.

120 FT LAID PER DAY—15 FT BELOW GROUND WATER TABLE

WORK GOES FAST when water goes fast, as shown by these over-all averages on a troublesome wet job! The speedy progress was maintained laying 5 miles of concrete pipe (36 in. to 84 in. diameter). Photo shows Griffin Wellpoint system on one side of 21-ft deep open-cut trench.

• Company has dewatered thousands of jobs with equally fine results. No wonder cost-wise contractors say, "To get rid of water, get in touch with Griffin." Let Griffin estimate *your* next job.

GRIFFIN

WELLPOINT CORP.

881 East 141st Street, New York 54, N. Y.
Hammond, Ind. Jacksonville, Fla.

In Canada: Construction Equipment Co., Ltd.
Toronto Montreal Halifax

NEW LITERATURE

Jacks—*Templeton, Kenly and Co., 1020 S. Central Ave., Chicago 44.* Folder, *Hydraulic 51-R*, contains photos, detail drawings and tabulated data on hydraulic jacks in capacities from 10 to 100 tons. "Simplex Re-Mo-Trol" pumps and rams are featured, with full listing of accessories and attachments. Other jacks shown are "Simplex-Jenny" hydraulic pullers, standard hydraulic jacks and new "Simplex Rol-Toe" foot lift hydraulic jacks.

Gypsum Wallboard—*Certain-teed Products Corp., Ardmore, Pa.* Illustrated folder on "Firestop Bestwall," gypsum wallboard with improved fire-resistive properties, lists uses, advantages and official Underwriters' Laboratories fire-resistance ratings of "Firestop." Cut-away drawing shows where it should be used in building.

First Aid Guide Book—*American Mutual Liability Insurance Co., 142 Berkeley St., Boston.* Manual, *Standard Procedures for First-Aid Workers in Industry*, is revised edition of earlier booklet on this subject and is intended primarily for use of first-aid attendants charged with handling injured workers. Procedures to be followed for all ordinary types of industrial injuries are listed. Included are diagrams and plans for installing model first-aid facilities.

Hospital Safety Window—*The William Bayley Co., 1200 Warder St., Springfield 99, Ohio.* "Saf-T-Gard" window for mental hospitals is presented in bulletin BSTG-52 (A.I.A. File No. 16E). Advantages of window in supplying maximum daylight, vision and air without endangering security are outlined. Construction of window is described and installation details are given.

Earth Drill—*The California Welding and Blacksmith Shop, Inc., Los Angeles.* Folder describes new "Calweld" earth drill Model 150-A. Pictures, sketches and diagrams show operation of machine digging caisson pier holes, pre-boring concrete piles, drilling water wells and cesspools, testing soil conditions. Text gives specifications and explains uses of drill in heavy construction, mining and oil field work.

Scraper—*Wooldridge Manufacturing Co., Sunnyvale, Calif.* Bulletin TC-707 presents TC-S142 "Terra Cobra" self-propelled scraper. Operational features and mechanical details are shown in series of sectional, cut-away and assembly views.

Soil Compaction—*Barco Manufacturing Co., 1801 Winnemac Ave., Chicago 40.* Bulletin 621 covers use of Barco portable gasoline "Rammer" for tamping fill or back-fill in restricted areas. Included is discussion of use of soil compaction for attaining greater permanence and lower costs. Applications described include soil compaction in construction work on highways, streets, buildings, dams, bridges, airports, landing strips, pipelines, trenches, etc.

Engine Maintenance—*Caterpillar Tractor Co., Peoria 8, Ill. Small Engine Maintenance Guide* (Form 30246) presents maintenance facts in cartoon story, in which dealer's service man shows how to maintain 6 smaller sizes of Caterpillar diesel engines, marine engines and electric sets. Full discus-

"BERG" CONCRETE SURFACERS

"Berg" Concrete Surfacers are extensively used for surfacing and finishing applications on all types of concrete construction.

Various interchangeable Heads and Attachments are available for grinding, wire brushing, sanding and polishing applications.

THE CONCRETE SURFACING MACHINERY CO.
CINCINNATI 32, OHIO

NEW LITERATURE

sion is given of cooling, lubricating, air intake and exhaust and fuel supply systems. Also included are care of starting engines, marine gear and generators, along with cold weather hints and general facts.

Screeding Machines—*Whiteman Manufacturing Co., 3249 Casitas Ave., Los Angeles 39.* Models 44-8 and RS-5 are presented in new bulletin. Pictures show machines working on highway, street and airport jobs. Specifications are given and hand grill tamper, screed cap for wood stakes and all-metal screed stakes are presented.

Loader—*The Eimco Corp., 634 S. Fourth West St., Salt Lake City 8.* Eimco "RockerShovel" is shown clearing highways in Bulletin L1028. Pictures show crawler-mounted shovel digging rock, sand, gravel or debris spilled along highway by rock slides and winter slough. Specifications of Model 104 "RockerShovel" are included.

Prefinished Wallpanels—*Prefinished Wallpanel Council, Keith Bldg., Cleveland 15. The Facts about Prefinished Wallpanels* is title of booklet designed to answer questions about this covering for walls and ceilings—what prefinished wallpanels are, how and when they are used and where they may be obtained.

Welding—*Eutectic Welding Alloys Corp., Flushing, N. Y.* Data on maintenance and repair welding problems and procedures are contained in *1951 Data File of Defense and Maintenance-Conservation Welding Problems.* Included are data sheets and information on full line of over 160 Eutectic low temperature welding alloys and latest developments in this field.

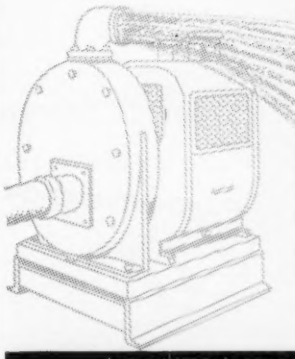
Welding Accessories—*Hobart Brothers Co., Troy, Ohio.* Catalog EW-164-S presents complete line of Hobart arc welding accessories and supplies.

Air-Entrained Concrete—*Autolene Lubricants Co., Industrial & Research Division, Denver 9.* New edition of *Protex Modern Placement of Concrete* contains latest technical information and field use tips on air-entrained concrete. Photos show recent construction projects. Many new graphs and charts have been added.

APPROVED STANDARDS

40M
(40,000 G.P.H.)
THIS PUMP COMPLIES WITH
A.G.C. STANDARDS
FOR SELF PRIMING CENTRIFUGAL PUMPS

This Plate appearing on your pump is your assurance of full performance --



To assist and assure the contractor, the Pump Bureau, with approval of the A. G. C., has established certain basic standards of pump performance. Through the Pump Bureau these reliable pump manufacturers meet the standards in their products which are identified by the official A.G.C. Standards Plate.

Members of the pump bureau are competing for your business by continual improvement of design in the best American tradition of free enterprise. As developments in pump engineering improve performance of pumps, they may be upgraded by action of the A.G.C.

These standards are approved by the A.G.C. and guaranteed by the Manufacturers listed below.

CONTRACTORS PUMP BUREAU
(Established 1938) Affiliated with . . .
THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC.
Munsey Building, Washington 4, D. C.

MARLOW PUMPS Ridgewood, N. J.	WORTHINGTON PUMP & MACH. CORP. Holyoke, Mass.	CHAIN BELT CO. Milwaukee, Wisconsin
	LEYMAN MFG. CORP. Cincinnati 2, Ohio	
NOVO ENGINE CO. Lansing, Michigan		CONSTRUCTION MACHINERY CO. Waterloo, Iowa
	BARNES MANUFACTURING CO. Mansfield, Ohio	
RICE PUMP & MACHINE CO. Grafton, Wisconsin		THE GORMAN-RUPP CO. Mansfield, Ohio
	CARVER PUMP CO. Muscatine, Iowa	
STERLING MACHINERY CORP. Kansas City, Mo.	C. H. & E. MANUFACTURING CO. Milwaukee, Wisconsin	THE JAEGER MACHINE CO. Columbus, Ohio

Caterpillar Tractor Co. announces an expansion program that will include a new factory in York, Pa., extensive additions to the Joliet, Ill., plant and some improvements in the Peoria, Ill., plant. In announcing the program, President L. B. Neumiller said it has been made necessary by continuing expansion in the demand for Caterpillar machines and parts. The major portion of the program, he said, will be financed with a long-term loan of $35,000,000.

Carson L. Ruyle has been appointed advertising manager of the Gardner-Denver Co., succeeding Lt. Damon P. Tunnicliff, who has been called to active service in the Navy.

W. B. Holder, formerly general sales manager of Barber-Greene Co., will head a new division of the company, plans for which are now being formulated, details to be announced later. E. H. Holt is new general sales manager and J. D. Turner has been named director of publicity and promotion.

Neil M. Clark has been named chief engineer for the Wilson-Albrecht Co.

Inauguration of the 3,000-mile Mack-Wooldridge assembly line at the Wooldridge Manufacturing Co.'s Sunnyvale, Calif., plant took place recently. The occasion celebrated the first Mack off-highway truck assembled on the West Coast. Under an agreement entered last winter with Mack Trucks, Inc., Wooldridge is assembling certain Mack off-highway models geared to meet western needs. Among the western industrial leaders taking part in the ceremonies was Harold O. Parish, vice president of the Northern California Chapter of The Associated General Contractors of America.

William D. Schneider has been appointed national manager of pump and water system sales for Barnes Manufacturing Co.

Donald W. Tait has been appointed advertising manager of the Perlite Division of Great Lakes Carbon Corp.

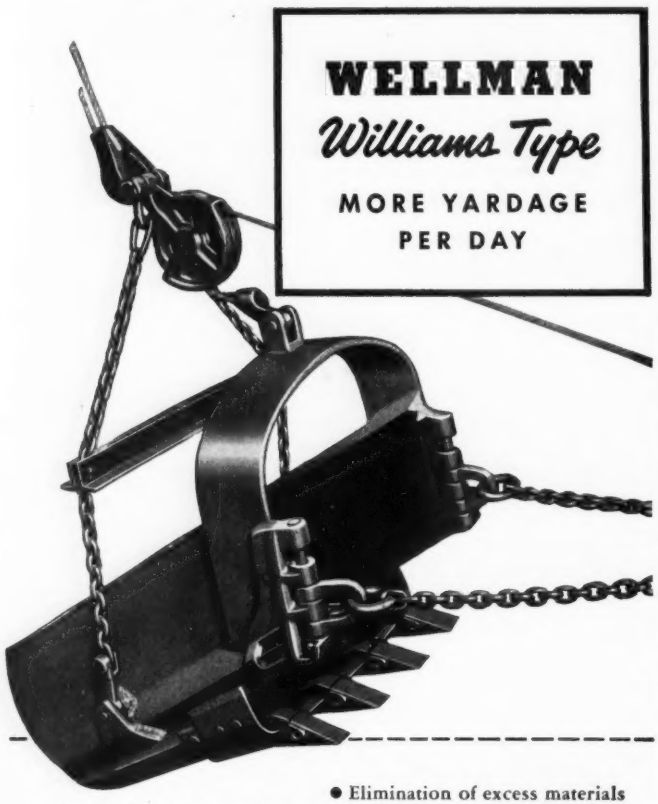
James B. McClellan has been appointed factory manager of Standard Steel Corp., in charge of all manufacturing activities.

Robert E. Cook has been named sales engineer of the Steel and Tube Division of The Timken Roller Bearing Co.

Joseph A. Richter, Jr., has been named manager of service for the power tool division of Henry Disston & Sons, Inc.

Obituary

Raymond Charles Force, first president of Caterpillar Tractor Co. and a member of its board of directors, died November 15. He served as president until 1930, then became chairman of the executive committee and a member of the board. He became associated with the track-type tractor business in 1919 when he was named vice president and secretary-treasurer of the C. L. Best Tractor Co., one of Caterpillar's two predecessor companies.



• Elimination of excess materials and careful weight distribution permit rapid, rhythmic operation of Wellman Dragline Buckets. Operators can cover a wider digging radius with this streamlined bucket.

Built of special alloy steel, using strong welded design, Wellman buckets provide strength and stamina for long-term economy. Perforated designs also available. You'll do better with Wellman.

Want Facts?
Write for free descriptive bulletins.

THE WELLMAN ENGINEERING COMPANY
7000 Central Avenue • Cleveland 4, Ohio

DRAGLINE, CLAMSHELL, CUSTOM-BUILT BUCKETS • STONE AND WOOD GRABS

Manufacturers' addresses are listed on page 87

Aggregate (Light-weight)
Great Lakes Carbon Corp., Building Products Division

Asphalt Plants (Portable)
Barber-Greene Co.
Iowa Mfg. Co.
White Mfg. Co.

Axles (Truck)
Eaton Mfg. Co., Axle Division

Backfillers
Bucyrus-Erie Co.
Cleveland Trencher Co.
Gradall Division
Harnischfeger Corp.
Parsons Co.

Batchers
Blaw-Knox Division
Construction Machinery Co.
Heltzel Steel Form & Iron Co.
C. S. Johnson Co.

Bearings (Anti-Friction, Tapered Roller)
Timken Roller Bearing Co.

Bins
Blaw-Knox Division
Heltzel Steel Form & Iron Co.
Iowa Mfg. Co.
Irvington Form & Tank Corp.
C. S. Johnson Co.
Supremix, Inc.

Bits (Detachable Drill)
Timken Roller Bearing Co.

Blades (Grader, Maintainer, Snow Plow, Bulldozer, Scarifier)
Shunk Manufacturing Co.

Bridges
American Bridge Co.
Armco Drainage & Metal Products

Buckets (Clamshell & Dragline)
Blaw-Knox Division
Bucyrus-Erie Co.
Harnischfeger Corp.
C. S. Johnson Co.
Wellman Engineering Co.

Buckets (Concrete)
Blaw-Knox Division
Construction Machinery Co.
Heltzel Steel Form & Iron Co.
Jaeger Machine Co.

Building Papers
Sisalkraft Co.

Buildings (Steel)
Allied Structural Steel Cos.
American Bridge Co.
Armco Drainage & Metal Products
International Steel Co.

Buildings (Steel)—Continued
Macomber, Inc.
Truscon Steel Co.

Bulldozers
Bucyrus-Erie Co.
R. G. LeTourneau, Inc.

Car Pullers
Clyde Iron Works

Ceilings
Fenestra Building Products

Cement (Common and Special)
Lehigh Portland Cement Co.
Lone Star Cement Corp.
Marquette Cement Mfg. Co.
Universal Atlas Cement Co.

Cement (White)
Trinity White, General Portland Cement Co.
Universal Atlas Cement Co.

Clamps (Hose)
Dixon Valve & Coupling Co.

Compressors
Allis-Chalmers Co.
Jaeger Machine Co.
LeRoi Co.

Concrete Curing Material
Sisalkraft Co.

Concrete Mixers, Pavers, Tampers
Chain Belt Co.
Construction Machinery Co.
Foote Co.
Jaeger Machine Co.
Knickerbocker Co.
Koehring Co.
Kwik-Mix Co.
T. L. Smith Co.
Worthington Pump & Machinery Corp.

Concrete Vibrators
Concrete Surfacing Machinery Co.
Electric Tamper & Equipment Co.
Vibro-Plus Products, Inc.
White Mfg. Co.

Conveying Machinery
Barber-Greene Co.
Chain Belt Co.
Iowa Mfg. Co.
Link-Belt Co.

Cranes
Austin-Western Co.
Bucyrus-Erie Co.
Cleveland Trencher Co.
Clyde Iron Works
General Excavator Co.
Harnischfeger Corp.
Koehring Co.
R. G. LeTourneau, Inc.

SLOANE
QUANTITY SURVEYS
For
All Classes of Construction

We Maintain a Large Staff of Engineers Which Assures Speed–Accuracy–Full Detail Reasonable Prefixed Charges

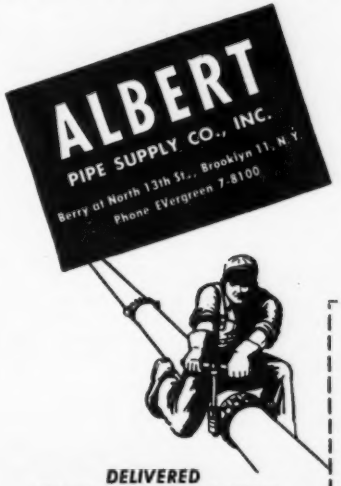
Approved by
Associated General Contractors of America and Federal, State and Municipal Authorities

Your Inquiry Will Receive Prompt Attention and Sample Estimates

H. A. Sloane Associates
Established 1922
415 Lexington Avenue
New York 17, N. Y.

SURVEYS VALUATIONS
APPRAISALS

SAVINGS FLOW FROM
SPEED-LAY PIPE SYSTEM
EVERYTHING for a COMPLETE PORTABLE PIPE SYSTEM



DELIVERED
READY FOR INSTALLATION

FACTORY PACKAGED
PIPE — COUPLINGS
FITTINGS — VALVES
ACCESSORIES
LIGHTWEIGHT, SAVES LABOR
FAST, SIMPLE

Immediate Installation
by one unskilled man. 2½ to 12½ o.d. black or galvanized. Larger sizes can be furnished. Ready to lay—without delay.

SEND COUPON NOW!
ALBERT PIPE SUPPLY CO., INC.
Berry & N. 13th St., Brooklyn 11, N. Y.
Please send free booklet describing your Speed-Lay Pipe System and services:
NAME.....
FIRM NAME.....
ADDRESS.....
CITY..... STATE.....

F&D has specialized for more than half a century in meeting the bonding requirements of contractors and makes its unrivalled facilities readily available to them through its experienced representatives in all parts of the country.

FIDELITY and DEPOSIT
COMPANY OF MARYLAND

Founded 1890–Baltimore, Md.

AFFILIATE: AMERICAN BONDING COMPANY OF BALTIMORE

ADVERTISERS' PRODUCTS

Cranes—Continued
Link-Belt Speeder Corp.
Michigan Power Shovel Co.
Northwest Engineering Co.
Osgood Co.

Crushing Machinery
Allis-Chalmers Co.
Austin-Western Co.
Iowa Mfg. Co.

Culverts
Albert Pipe Supply Co.
Armco Drainage & Metal Products

Cutters (Abrasive)
Wodack Electric Tool Corp.

Decking (Roof Steel & Aluminum)
Fenestra Building Products
Macomber, Inc.

Derricks
Clyde Iron Works

Doors (Metal, Wood)
Ceco Steel Products Corp.
Fenestra Building Products
International Steel Co.
Kinnear Mfg. Co.
R. C. Mahon Co.
Truscon Steel Co.

Dredging Machinery
Bucyrus-Erie Co.
Harnischfeger Corp.
Northwest Engineering Co.
Osgood Co.

Drills & Drilling Machinery
Bucyrus-Erie Co.
Buda Co.
Timken Roller Bearing Co.

Drills (Electric)
Wodack Electric Tool Corp.

Elevators (Material)
Chain Belt Co.
Iowa Mfg. Co.
Link-Belt Co.

Engines
Allis-Chalmers Tractor Div.
American Hoist & Derrick Co.
Buda Co.
Caterpillar Tractor Co.
Continental Motors Corp.
Cummins Engine Co.
Detroit Diesel Engine Division
Harnischfeger Corp.
International Harvester Co.
LeRoi Co.
Wisconsin Motor Corp.

Expansion Joints
Laclede Steel Co.

Financing
C.I.T. Corp.

Finishing Machines (Bituminous)
Barber-Greene Co.
Blaw-Knox Division

Finishing Machines (Concrete)
Blaw-Knox Division
Jaeger Machine Co.

Flooring
Fenestra Building Products
Kerlow Steel Flooring Co.
Truscon Steel Co.

Forms (Concrete) and Accessories
Baker-Roos, Inc.
Blaw-Knox Division
Economy Forms Corp.
Heltzel Steel Form & Iron Co.
Irvington Form & Tank Corp.
Richmond Screw Anchor Co.
Joseph T. Ryerson & Son, Inc.
Symons Clamp & Mfg. Co.
Universal Form Clamp Co.

Generating Sets (Electric)
Caterpillar Tractor Co.

Graders
J. D. Adams Mfg. Co.
Allis-Chalmers Tractor Div.
Austin-Western Co.
Caterpillar Tractor Co.
Euclid Road Machinery Co.
Galion Iron Works & Mfg. Co.
Gradall Division
Koehring Co.
W. A. Riddell Corp.

Gravel Plants (Portable)
Iowa Mfg. Co.

Grinders (Electric)
Wodack Electric Tool Corp.

Hammers (Electric)
Wodack Electric Tool Corp.

Hoists
American Hoist & Derrick Co.
Clyde Iron Works
Construction Machinery Co.
General Excavator Co.
Harnischfeger Corp.
Jaeger Machine Co.
McKiernan-Terry Corp.
Osgood Co.

Hose (Air, Water, Steam, Suction)
United States Rubber Co.

Industrial Financing
C.I.T. Corp.

Insurance (Automobile, Casualty, Compensation, Liability)
Aetna Casualty & Surety Co.
Central Surety & Insurance Corp.
Employers Mutuals of Wausau

Jacks
Buda Co.

Joists (Steel)
Ceco Steel Products Corp.
Macomber, Inc.

Kettles, Heating (Asphalt & Tar)
White Mfg. Co.

ADVERTISERS' PRODUCTS

Lighting Plants
LeRoi Co.

Loaders (Portable)
J. D. Adams Mfg. Co.
Barber-Greene Co.
Link-Belt Co.

Lubricants
Lubriplate Division

Manders (Hose)
Dixon Valve & Coupling Co.

Mixers (Truck)
Blaw-Knox Division
Chain Belt Co.
Jaeger Machine Co.

Mixing Plants
Blaw-Knox Division
Chain Belt Co.
Jaeger Machine Co.
C. S. Johnson Co.
Supremix, Inc.

Mortar (Masonry)
Lehigh Portland Cement Co.
Marquette Cement Mfg. Co.

Nipples (Hose)
Dixon Valve & Coupling Co.

Partitions (Steel, Load-Bearing)
Fenestra Building Products
Macomber, Inc.

Pile Drivers
American Hoist & Derrick Co.
Austin-Western Co.
Bucyrus-Erie Co.
General Excavator Co.
Harnischfeger Corp.
Link-Belt Co.
McKiernan-Terry Corp.
Northwest Engineering Co.
Osgood Co.

Piling (Steel)
Albert Pipe Supply Co.
Allied Structural Steel Cos.
American Bridge Co.
Armco Drainage & Metal Products
Bethlehem Steel Co.
L. B. Foster Co.

Pipe
Albert Pipe Supply Co.
Armco Drainage & Metal Products
L. B. Foster Co.
Laclede Steel Co.
Naylor Pipe Co.

Process Screen Plates for Equipment Identification
Equipment Identification Co.

Pumps (Contractors')
Barnes Mfg. Co.
C.H.&E. Mfg. Co.
Carver Pump Co.

Pumps (Contractors')—Continued
Chain Belt Co.
Complete Machinery & Equipment Co.
Construction Machinery Co.
Gorman-Rupp Co.
Griffin Wellpoint Corp.
Jaeger Machine Co.
Leyman Mfg. Corp.
Marlow Pumps
Novo Engine Co.
Rice Pump & Machine Co.
Sterling Machinery Corp.
Worthington Pump & Machinery Corp.

Pumps (Jetting)
Complete Machinery & Equipment Co.
Gorman-Rupp Co.
Griffin Wellpoint Corp.

Quantity Surveyors
H. A. Sloane Associates

Quarry Plants
Austin-Western Co.
Iowa Mfg. Co.

Rail
L. B. Foster Co.

Railway Equipment & Track Material
Buda Co.
L. B. Foster Co.
Wisconsin Motor Corp.

Reinforcement Accessories
Baker-Roos, Inc.
Economy Forms Corp.
Richmond Screw Anchor Co.
Symons Clamp & Mfg. Co.
Universal Form Clamp Co.

Reinforcing Steel and Mesh
American Bridge Co.
Bethlehem Steel Co.
Ceco Steel Products Corp.
Laclede Steel Co.
Joseph T. Ryerson & Son, Inc.
Truscon Steel Co.

Rollers
Austin-Western Co.
Blaw-Knox Division
Bucyrus-Erie Co.
Buffalo-Springfield Roller Co.
Euclid Road Machinery Co.
Galion Iron Works & Mfg. Co.
R. G. LeTourneau, Inc.
W. A. Riddell Corp.

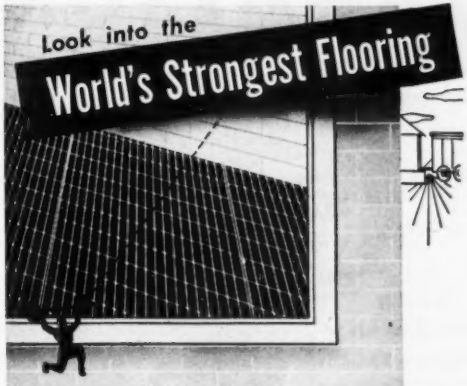
Roof Deck (Steel)
Allied Structural Steel Cos.
Ceco Steel Products Corp.
Fenestra Building Products
Irvington Form & Tank Corp.
R. C. Mahon Co.
Truscon Steel Co.

Rope (Wire)
American Hoist & Derrick Co.
L. B. Foster Co.
A. Leschen & Sons Rope Co.
R. G. LeTourneau, Inc.
Joseph T. Ryerson & Son, Inc.

THE COMPLETE MACHINE FOR MAXIMUM PAYLOADS

1. Continuous "L" shaped blade construction — for quicker charging — mixing — discharging.
2. Quiet, smooth roller chain — cut sprocket drive absorbs all shock.
3. Hardened nickel alloy steel drum rollers — Twin Timken mounted.
4. Clutch and Throttle Controls at either end of drum — Reached from catwalk.
5. Extra high discharge with hinged one-man chute.

CONSTRUCTION MACHINERY COMPANIES
WATERLOO, IOWA



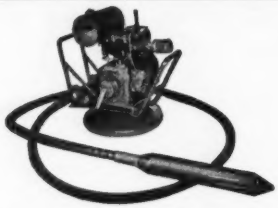
KERLOW OPEN STEEL GRATING will outlast the building in which it is installed. It's safer, cleaner, fireproof.

Engineering and installation tests prove that it has no peer in FLOORS • SLABS • ARMORING • DRAIN GATES • TRENCH COVERS • SAFETY STEPS. Famous for bridges and with all processing industries where durable, self-ventilating, chemical-resistant flooring is essential.

Write for complete catalog and assistance from specialist-engineers who can solve your steel-flooring problems.

KERLOW

KERLOW STEEL FLOORING CO.
25 Mallory Ave., Jersey City, N. J.



Only White Vibrators Have All These Features

which have made them successful all over the world.

All Flexible Drive Sections are Interchangeable.
No special sections, or expensive extra couplings needed. Each casing has ball bearing connector.

No Limit to Length of Flexible Drive.
Each driving core has slip joint which does not separate in service. Prevents stretching.

All Vibrator Heads are Interchangeable.
Can be put directly on any drive section. Can be opened for repairs. Double row ball bearings.

Grinding Spindles can be attached to any section.
No special drive needed. For wet and dry grinding.

Standard Power Units.
Gasoline engines or electric motors which can be serviced almost anywhere. Swivel base. Barrows.

Minimum of Repair Parts Needed.
One spare driving core is ample. Either 7' or 12'.

Write for circular and name of nearest dealer.

Elkhart White Mfg. Co. Indiana

GARRISON

Hydraulic

STEERING BOOSTERS

Make TOUGH STEERING *Easier · Faster Safer*

Easily Installed on—

- **Heavy Trucks**
- **Road Graders**
- **Wheel Tractors**

GARRISON HYDRAULIC STEERING BOOSTERS not only **save time** but increase the efficiency of the operators of heavy duty trucks and earth-moving equipment by reducing "road shock," "wheel fight" and driver fatigue. Operating automatically through the steering effort of the operator, mechanical steering is in effect at all times.

Write for full information and learn how many contractors are now increasing the efficiency of their earth-moving equipment with **Garrison Hydraulic Steering Boosters.**

Garrison Manufacturing Co.
1506 So. Santa Fe Avenue, Los Angeles 21

ADVERTISERS' PRODUCTS

Sash (Metal, Wood)
Fenestra Building Products
Hope's Windows, Inc.
Truscon Steel Co.

Scarifiers
J. D. Adams Mfg. Co.
Austin-Western Co.

Scrapers
Austin-Western Co.
Bucyrus-Erie Co.
Caterpillar Tractor Co.
Galion Iron Works & Mfg. Co.
R. G. LeTourneau, Inc.
W. A. Riddell Corp.

Screens (Sand, Gravel & Coal)
Iowa Mfg. Co.
Link-Belt Co.

Shores
Baker-Roos, Inc.
Symons Clamp & Mfg. Co.

Shovels (Power)
American Hoist & Derrick Co.
Austin-Western Co.
Bucyrus-Erie Co.
General Excavator Co.
Harnischfeger Corp.
Koehring Co.
Link-Belt Speeder Corp.
Michigan Power Shovel Co.
Northwest Engineering Co.
Osgood Co.

Shutters (Fire, Labeled)
Kinnear Mfg. Co.
R. C. Mahon Co.

Slings (Wire Rope)
American Hoist & Derrick Co.
A. Leschen & Sons Rope Co.

Spreaders (Bituminous Surface)
Galion Iron Works & Mfg. Co.

Stabilizing Equipment
Harnischfeger Corp.
Iowa Mfg. Co.

Steel (Structural)
Allied Structural Steel Cos.
American Bridge Co.
Bethlehem Steel Co.
Fenestra Building Products
International Steel Co.
Macomber, Inc.
Joseph T. Ryerson & Son, Inc.
Truscon Steel Co.

Steering (Hydraulic Power)
Garrison Manufacturing Co.

Surety Bonds
Aetna Casualty & Surety Co.
American Surety Co.
Central Surety & Insurance Corp.
Employers Mutuals of Wausau
Fidelity & Deposit Co.
Phoenix-London Group

Surveying Instruments
Trans-Global Co.

Tires
General Tire & Rubber Co.
Goodyear Tire & Rubber Co.
United States Rubber Co.

Tools (Pneumatic, Electric)
Allis-Chalmers Co.

Torches (Kerosene)
White Mfg. Co.

Tractors
Allis-Chalmers Tractor Div.
Caterpillar Tractor Co.
International Harvester Co.
Oliver Corp., Industrial Div.

Trailers (Dump & Crawler Wheel)
Euclid Road Machinery Co.
R. G. LeTourneau, Inc.

Trailers (Heavy Equipment)
Martin Machine Co.
Rogers Bros. Corp.

Trenchers
Barber-Greene Co.
Cleveland Trencher Co.
Gradall Division
Harnischfeger Corp.
Michigan Power Shovel Co.
Parsons Co.

Truck Axles
Eaton Mfg. Co., Axle Division

Trucks (Motor)
Euclid Road Machinery Co.
International Harvester Co.
Mack Trucks, Inc.

Trusses (Steel)
Macomber, Inc.

Tunnel Liner Plates
Armco Drainage & Metal Products
Irvington Form & Tank Corp.

Valves (Air—Self-Honing)
Dixon Valve & Coupling Co.

Wagons (Dump)
Austin-Western Co.
Caterpillar Tractor Co.
Euclid Road Machinery Co.
R. G. LeTourneau, Inc.

Walls
Fenestra Building Products
R. C. Mahon Co.

Washing Plants
Austin-Western Co.
Iowa Mfg. Co.
Link-Belt Co.

Wellpoint Systems
Complete Machinery & Equipment Co.
Griffin Wellpoint Corp.

Winches
Clyde Iron Works

MANUFACTURERS LISTED IN GUIDE

J. D. Adams Mfg. Co.
Indianapolis 6, Ind.

Aetna Casualty & Surety Co.
Hartford 15, Conn.

Albert Pipe Supply Co.
Berry & N. 13th St.
Brooklyn 11, N. Y.

Allied Structural Steel Cos.
20 N. Wacker Drive
Chicago 6, Ill.

Allis-Chalmers Co.
Milwaukee 1, Wis.

American Bridge Co.
Frick Bldg.
Pittsburgh, Pa.

American Hoist & Derrick Co.
St. Paul 1, Minn.

American Surety Co.
100 Broadway
New York 5, N. Y.

Armco Drainage & Metal Products, Inc.
2280 Curtis St.
Middletown, Ohio

Austin-Western Co.
Aurora, Ill.

Baker-Roos, Inc.
602 W. McCarty St.
Indianapolis 6, Ind.

Barber-Greene Co.
Aurora, Ill.

Barnes Mfg. Co.
603 N. Main St.
Mansfield, Ohio

Bethlehem Steel Co.
Bethlehem, Pa.

Blaw-Knox Division
2060 Farmers Bank Bldg.
Pittsburgh 22, Pa.

Bucyrus-Erie Co.
South Milwaukee, Wis.

Buda Co.
Harvey, Ill.

Buffalo-Springfield Roller Co.
Springfield, Ohio

C. H. & E. Mfg. Co.
3842 N. Palmer St.
Milwaukee 12, Wis.

C.I.T. Corp.
1 Park Ave.
New York 16, N. Y.

Carver Pump Co.
Muscatine, Iowa

Caterpillar Tractor Co.
Peoria 8, Ill.

Ceco Steel Products Corp.
5601 W. 26th St.
Chicago 50, Ill.

Central Surety & Insurance Corp.
1737 McGee St.
Kansas City, Mo.

Chain Belt Co.
4625 W. Greenfield Ave.
Milwaukee 1, Wis.

Cleveland Trencher Co.
20100 St. Clair Ave.
Cleveland 17, Ohio

Clyde Iron Works
Duluth 1, Minn.

Complete Machinery & Equipment Co.
36-40 11th St.
Long Island City 1, N. Y.

Concrete Surfacing Machinery Co.
Cincinnati 32, Ohio

Construction Machinery Co.
Waterloo, Iowa

Continental Motors Corp.
Muskegon, Mich.

Cummins Engine Co.
Columbus, Ind.

Detroit Diesel Engine Division, General Motors Corp.
Detroit 28, Mich.

Dixon Valve & Coupling Co.
Columbia & Hancock Sts.
Philadelphia 22, Pa.

Eaton Mfg. Co., Axle Division
739 E. 140th St.
Cleveland 10, Ohio

Economy Forms Corp.
4301 E. 14th St.
Des Moines 13, Iowa

Electric Tamper & Equipment Co.
Ludington, Mich.

Employers Mutuals of Wausau
Wausau, Wis.

Equipment Identification Co.
515 Peoples Bank Bldg.
Indianapolis 4, Ind.

Euclid Road Machinery Co.
Cleveland 17, Ohio

Fenestra Building Products
2253 E. Grand Blvd.
Detroit 11, Mich.

Fidelity & Deposit Co.
Fidelity Bldg.
Baltimore 3, Md.

Foote Co.
1914 State St.
Nunda, N. Y.

L. B. Foster Co.
Pittsburgh 30, Pa.

Galion Iron Works & Mfg. Co.
Galion, Ohio

Garrison Manufacturing Co.
1506 Santa Fe Ave.
Los Angeles 21, Calif.

General Excavator Co.
Marion, Ohio

General Tire & Rubber Co.
Akron, Ohio

Goodyear Tire & Rubber Co.
Akron 16, Ohio

Gorman-Rupp Co.
Mansfield, Ohio

Gradall Division Warner & Swasey Co.
Cleveland 3, Ohio

Great Lakes Carbon Corp. Building Products Division
18 E. 48th St.
New York 17, N. Y.

Griffin Wellpoint Corp.
881 E. 141st St.
New York 54, N. Y.

Harnischfeger Corp.
4418 W. National Ave.
Milwaukee 14, Wis.

INDEX OF ADVERTISERS

A.G.C. Forms and Reports	71
Adams, J. D., Manufacturing Co.	18
Albert Pipe Supply Co.	83
American Surety Co.	70
Austin-Western Co.	8
Barnes Manufacturing Co.	69
Bethlehem Steel Co.	62
C.I.T. Corp.	4
Caterpillar Tractor Co.	46
Ceco Steel Products Corp.	65
Central Surety and Insurance Corp.	78
Chain Belt Co.	43
Clyde Iron Works	Cover 4
Concrete Surfacing Machinery Co., The	80
Construction Machinery Co.	85
Continental Motors Corp.	52
Contractors Pump Bureau	81
Cummins Engine Co.	16
Eaton Manufacturing Co., Axle Division	Cover 2
Economy Forms Corp.	48
Equipment Identification Co.	79
Euclid Road Machinery Co.	Cover 3
Fidelity and Deposit Co.	84
Galion Iron Works & Mfg. Co., The	33
Garrison Manufacturing Co.	86
General Excavator Co., The	61
Gradall Division, Warner & Swasey	30
Griffin Wellpoint Corp.	80
International Harvester Co.	44, 45
International Steel Co.	66
Iowa Manufacturing Co.	50, 51
Irvington Form & Tank Corp.	70
Jackson Vibrators, Inc.	32
Johnson, C. S., Co.	13
Kerlow Steel Flooring Co.	85
Kinnear Manufacturing Co., The	68
Koehring Co.	12, 13
Lehigh Portland Cement Co.	23
LeRoi Co.	58, 59
LeTourneau, R. G., Inc.	38, 39
Link-Belt Speeder Corp.	57
Lone Star Cement Corp.	2
Mack Trucks	25
Macomber, Inc.	40
Mahon, R. C., Co., The	6
Marquette Cement Manufacturing Co.	29
Martin Machine Co.	55
McKiernan-Terry Corp.	75
Michigan Power Shovel Co.	53
Naylor Pipe Co.	77
Northwest Engineering Co.	34
Parsons Co.	13
Phoenix-London Group	74
Richmond Screw Anchor Co.	37
Ryerson, Joseph T., & Son, Inc.	1
Shunk Manufacturing Co.	72
Sisalkraft Co., The	54
Sloane, H. A., Associates	83
Supremix, Inc.	88
Timken Roller Bearing Co., The	10
Trans-Global Co.	72
Trinity Division, General Portland Cement Co.	76
Truscon Steel Co.	20
Universal Atlas Cement Co.	49
Universal Form Clamp Co.	14
Wellman Engineering Co., The	82
White Manufacturing Co.	86
Wisconsin Motor Corp.	48
Wodack Electric Tool Corp.	88

MANUFACTURERS LISTED IN GUIDE

Heltzel Steel Form & Iron Co.
Warren, Ohio

Hope's Windows, Inc.
Jamestown, N. Y.

International Harvester Co.
180 N. Michigan Ave.
Chicago 1, Ill.

International Steel Co.
1715 Edgar St.
Evansville 7, Ind.

Iowa Mfg. Co.
Cedar Rapids, Iowa

Irvington Form & Tank Corp.
Irvington, N. Y.

Jaeger Machine Co.
528 Dublin Ave.
Columbus 16, Ohio

C. S. Johnson Co.
Champaign, Ill.

Kerlow Steel Flooring Co.
35 Mallory Ave.
Jersey City, N. J.

Kinnear Mfg. Co.
650-680 Fields Ave.
Columbus 16, Ohio

Knickerbocker Co.
Jackson, Mich.

Koehring Co.
3026 W. Concordia Ave.
Milwaukee 16, Wis.

Kwik-Mix Co.
Port Washington, Wis.

Laclede Steel Co.
Arcade Bldg.
St. Louis 1, Mo.

Lehigh Portland Cement Co.
Allentown, Pa.

LeRoi Co.
1706 S. 68th St.
Milwaukee 14, Wis.

A. Leschen & Sons Rope Co.
5909 Kennerly Ave.
St. Louis 12, Mo.

R. G. LeTourneau, Inc.
Peoria 5, Ill.

Leyman Mfg. Corp.
Cincinnati 2, Ohio

Link-Belt Speeder Corp.
1201 Sixth St., S.W.
Cedar Rapids, Iowa

Lone Star Cement Corp.
100 Park Ave.
New York 17, N. Y.

Lubriplate Division
Fiske Brothers Refining Co.
Newark 5, N. J.

Mack Trucks, Inc.
Empire State Bldg.
New York 1, N. Y.

Macomber, Inc.
Canton 1, Ohio

R. C. Mahon Co.
Detroit 34, Mich.

Marlow Pumps
Ridgewood, N. J.

Marquette Cement Mfg. Co.
20 N. Wacker Drive
Chicago 6, Ill.

Martin Machine Co.
Kewanee, Ill.

McKiernan-Terry Corp.
18 Park Row
New York 38, N. Y.

Michigan Power Shovel Co.
485 Second St.
Benton Harbor, Mich.

Naylor Pipe Co.
1230 E. 92d St.
Chicago 19, Ill.

Northwest Engineering Co.
Field Bldg., 135 S. LaSalle St.
Chicago 3, Ill.

Novo Engine Co.
212 Porter St.
Lansing 5, Mich.

Oliver Corp., Industrial Division
19300 Euclid Ave.
Cleveland 17, Ohio

Osgood Co.
Marion, Ohio

Parsons Co.
Newton, Iowa

Phoenix-London Group
55 Fifth Ave.
New York, N. Y.

Rice Pump & Machine Co.
Grafton, Wis.

Richmond Screw Anchor Co.
816 Liberty Ave.
Brooklyn 8, N. Y.

W. A. Riddell Corp.
Bucyrus, Ohio

Rogers Bros. Corp.
223 Orchard St.
Albion, Pa.

Joseph T. Ryerson & Son, Inc.
P.O. Box 8000-A
Chicago 80, Ill.

Shunk Manufacturing Co.
Bucyrus, Ohio

Sisalkraft Co.
205 W. Wacker Drive
Chicago 6, Ill.

H. A. Sloane Associates
415 Lexington Ave.
New York 17, N. Y.

T. L. Smith Co.
2853 N. 32d St.
Milwaukee 10, Wis.

Sterling Machinery Corp.
1950 Santa Fe Ave.
Los Angeles 21, Calif.

Supremix, Inc.
406 Grace St.
Adrian, Mich.

Symons Clamp & Mfg. Co.
4259 W. Diversey Ave.
Chicago 39, Ill.

Timken Roller Bearing Co.
Canton 6, Ohio

Trans-Global Co.
1480 Broadway
New York 18, N. Y.

Trinity White, General Portland Cement Co.
111 W. Monroe St.
Chicago 3, Ill.

Truscon Steel Co.
Youngstown 1, Ohio

United States Rubber Co.
Rockefeller Center
New York 20, N. Y.

Universal Atlas Cement Co.
100 Park Ave.
New York 17, N. Y.

Universal Form Clamp Co.
1238 N. Kostner
Chicago 51, Ill.

Vibro-Plus Products, Inc.
54-11 Queens Blvd.
Woodside, N. Y.

Wellman Engineering Co.
7015 Central Ave.
Cleveland 4, Ohio

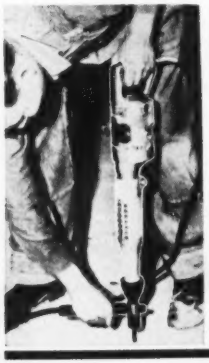
White Mfg. Co.
Elkhart, Ind.

Wisconsin Motor Corp.
Milwaukee 46, Wis.

Wodack Electric Tool Corp.
4627 W. Huron St.
Chicago 44, Ill.

Worthington Pump & Machinery Corp.
Holyoke, Mass.

Worthington Pump & Machinery Corp.—Constr. Equip. Div.
Dunellen, N. J.



WODACK "DO-ALL"
ELECTRIC HAMMER
and DRILL

Drills Concrete
Masonry
Metal and
Wood

One Man with a Wodack "Do-All" Hammer does as much work as 12 to 15 men using hand tools. Used by Contractors, Installers and Maintenance Departments.

Ask for the new Bulletin 510-C

Wodack Electric Tool Corp.
4627 W. Huron St., Chicago 44, Ill.

IDEAL FOR ALL 3

1. Converting To Central Mix
2. Package Plants by One Manufacturer
3. Semi-Portable Plants Demountable for Quick Moves

406 Grace Street
Adrian, Michigan

An Affiliate of GoCORP

More Production... at LESS COST

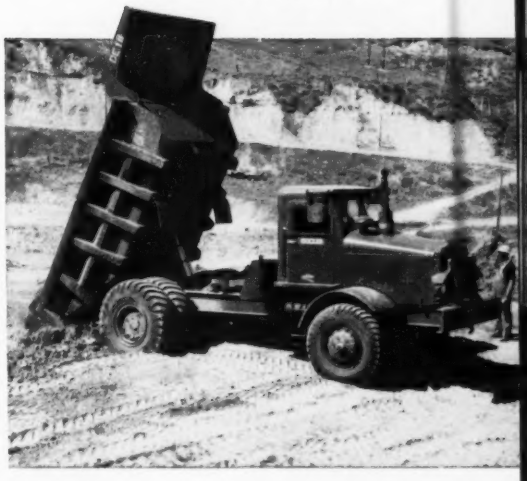
EUCLID
THE PIONEER

PROVED on hundreds of off-the-highway construction and industrial jobs, and in open pit mines and quarries, "Eucs" have the capacity and speed to move more loads faster and at lower cost.

There is a Euclid model for every off-the-highway hauling requirement. Rear Dump "Eucs" of 10 to 34 ton capacity have travel speeds up to 36.3 m.p.h. and are powered by diesel engines of 125 to 400 h.p. Bottom-Dump Euclids range in capacity from 13 to 25 cu. yds., have top loaded speeds up to 34.4 m.p.h., and diesel engines of 190 to 300 h.p.

The Euclid Scraper has proved its dependability and efficiency on the construction of roads, levees, airports and in open pit mining. The Euclid Loader, teamed with the Euclid Bottom-Dump, has set records for low cost earth moving on a wide range of jobs.

You get more production at less cost with Euclids. Call your Euclid Distributor for help with your off-the-highway hauling problems, or write for information on the complete line of Euclid equipment.



The EUCLID ROAD MACHINERY Co., CLEVELAND 17, OHIO

EUCLIDS *Move the Earth*

CLYDE WHIRLETTE

"the answer to our prayers!"

The erecting of steel for a fifth and sixth floor addition to an existing structure presented a difficult problem due to load limits on the roof. A Model W-3 Whirlette was recommended for mounting on a carriage which could be railed over the existing structure on the steel permanently placed for the beginning of the fifth and sixth floor additions. This accomplished weight distribution well within the load limits and made it possible for the contractor to permanently position beams weighing approximately 3,100 pounds.

Two new, Whirlettes

Model W-3 with double drum hoist, with or without power. 10,000 lbs. capacity. Maximum boom length 40 feet.

Model W-45 with two or three drum hoist, with or without swinger. 24,000 lbs. capacity. Maximum boom length, 60 feet. Either model available with gasoline or electric power.

. . . the contractor says--

"The smoothness and efficiency with which the Whirlette performs this feat has won the acclaim of all the iron workers who are connected with the operation and who have an opportunity to see the performance. To be very frank, it has been the answer to our prayers, particularly on this job."

J. J. Watson
Olson Construction Co.
Lincoln, Nebraska

Here the W-3 Whirlette sets steel for the fifth and sixth floors. The simplified controls on the Whirlette's hoist permits precision control for setting steel. The turntable has integral bull gear and center pin and a machined double taper roller path which permits full 360° swing.

WHIRLEYS • DERRICKS • HOISTS • BUILDERS TOWERS • CAR PULLERS • HANDI-CRANES • ROLLERS

CLYDE

CLYDE IRON WORKS, Inc.

DULUTH 1, MINNESOTA

Subsidiary of Barium Steel Corporation